INTEGRATED OCCUPATIONAL PROGRAM

Program of Studies/Curriculum Guide
Grades 8 and 9

PRACTICAL ARTS

- BUSINESS EDUCATION
- PERSONAL AND PUBLIC SERVICES
- TECHNICAL/OCCUPATIONAL

INTERIM 1989

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Integrated Occupational Program Practical Arts

- Business Education
- Personal and Public Services
- Technical/Occupational

Program of Studies/Curriculum Guide

Grades 8 and 9

INTERIM 1989

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NOTE

CURRICULAR DOCUMENT FORMAT

To provide educators with a comprehensive overview of the Integrated Occupational Program, all I.O.P. curricular documents have adopted the format of combining the Program of Studies and Curriculum Guide into one document. The shaded statements or segments within this document indicate the prescriptive contents of the Program of Studies. All other advice and direction provided are suggested only.

The terminology and format used in this document reflect policy in effect when I.O.P. curriculum development began in 1987.

METRICATION POLICY

It is the policy of Alberta Education that "SI units become the principal system of measurement in the curriculum of the schools in the province". In preparing students for transition to the workplace where Imperial/U.S. measurements may still be in use, both SI metric and other units of measurement are addressed in the practical arts/occupational component of the Integrated Occupational Program.

The comparison/teaching of metric units with other units of measurement should be restricted to those that are relevant to student needs as reflected by common usage in course-related workplaces.

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RATIONALE

"Education should foster ideas of risk taking, innovation and the pursuit of excellence. Considerations should include the model of the market economy and its application to Alberta in terms of the nature of the resource base; the skills of the people; the infrastructure; the impact of federal, economic, fiscal and monetary, and transportation policy; the role of the financial and credit institutions; the effect of the tax system; and the rights and responsibilities of employees, employers, regulating agencies and government."

Proposals for an Industrial and Science Strategy for Albertans 1985-1990, White Paper (1984).

". . . the goals of secondary schools are to assist students to: . . become aware of the expectations, and be prepared for the opportunities of the workplace - expectations that will be faced as employees or employers; expectations that will be faced as entrepreneurs or volunteers;"

Secondary Education in Alberta (June, 1985)

"Opportunities must be provided to involve the community in secondary education programs and to recognize and support learning experiences which take place outside of schools."

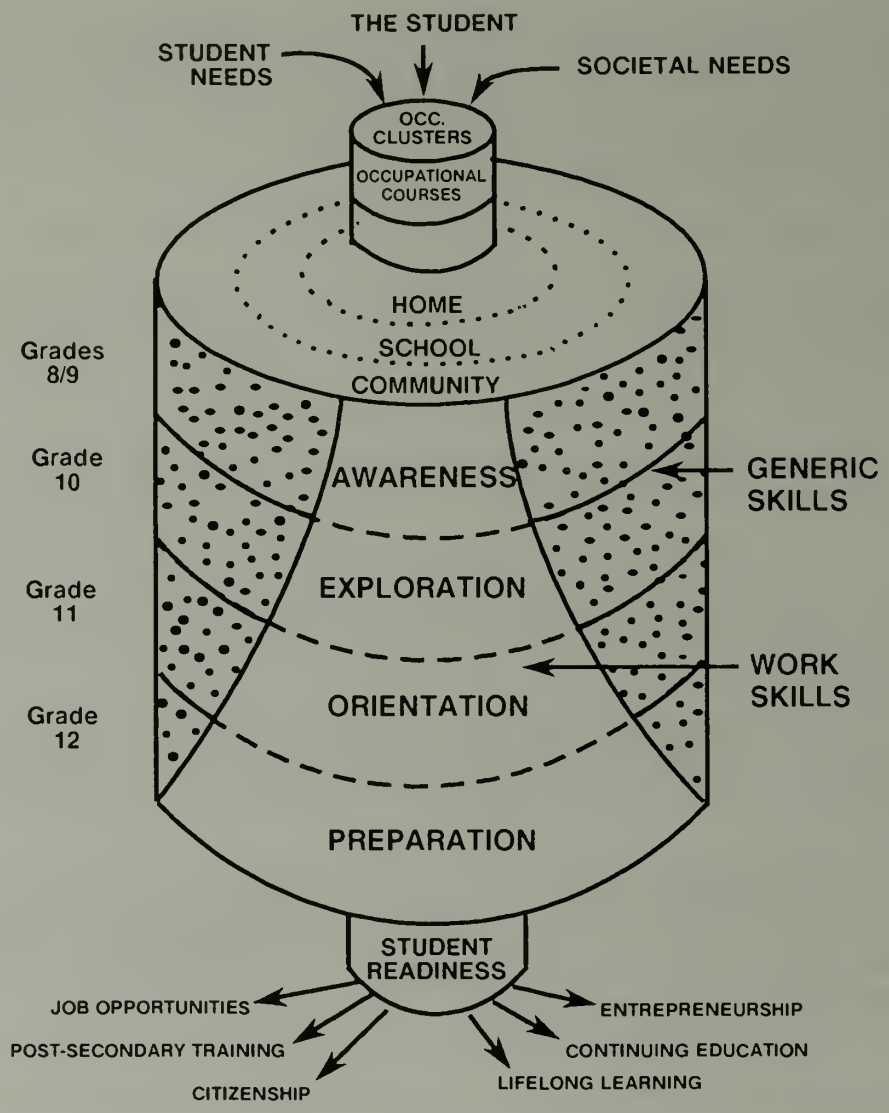
Principle #5, Secondary Education in Alberta (June, 1985)

The practical arts component of the Integrated Occupational Program (I.O.P.) is designed to enable students to develop essential concepts, skills, and attitudes in the context of eight occupational clusters.

In Grades 8 and 9, I.O.P. students will develop AWARENESS of the eight occupational clusters addressed in the senior high occupational component of the program through their participation in I.O.P. Practical Arts courses: Business Education, Personal and Public Services, Technical/ Occupational.

In Grade 10, students will EXPLORE potential career opportunities within the eight occupational clusters. Grade 11 students will have narrowed their career focus and will select an ORIENTATION in two or more related occupational courses. Grade 12 enables students to narrow their career focus even further and to develop skills in PREPARATION for their transition to either the world of work or to other educational/training institutions.

The model below shows the sequence of skill development and the anticipated outcomes for students who complete the program and attain a Certificate of Achievement.



The eight occupational clusters and related senior high occupational courses that comprise the occupational component of the Integrated Occupational Program are:

Occupational Clusters	Occupational Courses
1. Agribusiness	Agricultural Mechanics Agricultural Production Horticultural Services
2. Business and Office Operations	Business Services Office Services
3. Construction and Fabrication	Building Services Construction Services

4. Creative Arts	Crafts and Arts Technical Arts
5. Natural Resources	Natural Resource Services
6. Personal and Public Services	Child and Health Care Services Esthetology Fashion and Fabric Services Hair Care
7. Tourism and Hospitality	Commercial Food Preparation Food Services Maintenance and Hospitality Services
8. Transportation	Automotive Services Service Station Services Warehouse Services

The occupational clusters were identified from federal and provincial government data as representative of Alberta's economy. The selection of the occupational courses resulted from consultation with educators and representatives from business and industry, and from a review of regional employment projections provided by Alberta Career Development and Employment.

PHILOSOPHY

The practical arts component of the Integrated Occupational Program, Grades 8-9, is designed to provide opportunities for the student to experience practical and appropriate learning within the school, home, and the community in the context of clusters of occupations. The practical arts focus first and foremost on the needs of students and seek to build on their strengths rather than focus on their weaknesses. Also, the occupational courses are designed to help students construct their own bridges as they make the transition from junior high school to senior high school and then to the workplace.

Throughout the practical arts, teachers are encouraged to assess the needs of each student in a class and to complement and supplement the curriculum with additional materials that best meet the needs of each student.

Three key concepts about the practical arts emerge from the above:

1. Students need to develop generic skills in one or more occupational clusters that will enable them to make educated decisions concerning the roles they wish to play in the workplace and in the community.

2. Students need to develop work skills that will enable them to gain at least entry level employment in one or more occupational family.

3. The development of both generic skills and work skills can best be achieved through courses of study that integrate:

   (a) the learning of essential concepts, skills and attitudes across the curriculum; and

   (b) the school and the community as partners in the educational process.

In addition, the practical arts courses are designed to enable each student to experience success through learning, to develop a positive self-concept, to develop saleable life skills, and to make the transition from student, to work, to contributing member of society.

GOALS OF I.O.P. PRACTICAL ARTS 8 AND 9

The practical arts component of the Integrated Occupational Program, Grades 8 and 9, strives to utilize the learning facilities of the school and the learning opportunities in the community to achieve the goals of enabling students to:

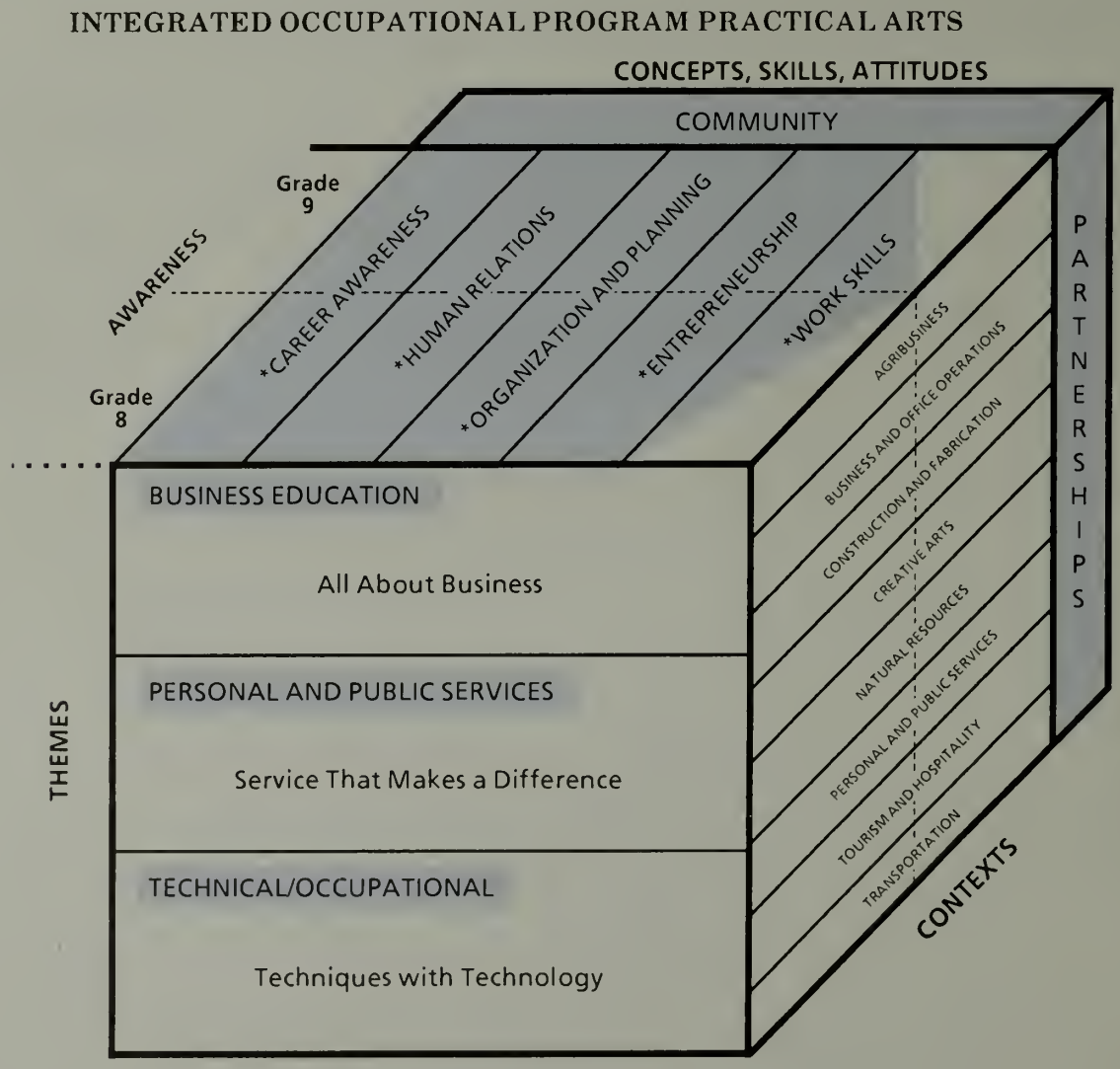
- show initiative
- accept constructive criticism
- seek assistance
- follow instructions
- enhance self-esteem
- think critically and creatively
- communicate effectively with peers and others
- develop improved social skills
- perform safe-use and safe-behaviour practices in the home, at school, and in the workplace
- develop entry level work skills
- understand the opportunities available to entrepreneurs
- provide opportunities to gain awareness of career opportunities from among the clusters of occupations and I.O.P. occupational courses available in local high schools
- develop organizational skills including good work habits and time and task management
- develop an interest and a desire to pursue further education and training.

In addition, each of the Grades 8 and 9 courses that comprise the practical arts – business education, personal and public services, technical/occupational – incorporate the goal of reinforcing concepts, skills and attitudes learned across the curriculum.

MODEL FOR I.O.P. PRACTICAL ARTS 8 AND 9

The model for I.O.P. Practical Arts, Grades 8 and 9 illustrates an integration of program dimensions, thus illustrating the notion of a "holistic" approach to instruction and learning. Four dimensions provide a basis for program planning and are represented on the cube as:

- Concepts, Skills and Attitudes
- Context
- Community Partnerships
- Themes



* = GENERIC SKILLS

CONCEPTS, SKILLS AND ATTITUDES

Although this dimension of the model represents the generic concepts, skills and attitudes which the program is intended to deliver, it must be remembered they are not, in themselves, the ends of the program. They are, rather, a type of "road map", providing guidance and direction in planning thematic instructional activities that will provide students with the knowledge and skills required for responsible participation in everyday life and the world of work. The first four strands describe the generic component of the program; the fifth strand, Work Skills, describes a body of concepts, skills and attitudes which relate to, and are transferable among, two or more of eight occupational clusters.

CONTEXT FOR INSTRUCTION

The context for instruction provides relevance for student learning. In I.O.P. Practical Arts, the contexts are eight senior high occupational clusters that represent the scope of career opportunities currently available in the Province of Alberta.

COMMUNITY PARTNERSHIPS

This dimension of the model indicates the relationships that are developed between the school and the community in order to provide students with applications of learning in real life settings.

THEMES

Themes provide the setting in which discrete skills and strategies are linked together into meaningful activities. The three courses which comprise I.O.P. Practical Arts are addressed through three thematic units of instruction.

These three themes provide the vehicle through which concepts, skills and attitudes can be taught. Each theme is addressed through a collection of practical, interrelated learning activities. Each learning activity is further related to one or more of the eight occupational clusters which students will encounter at senior high school.

GENERIC SKILLS

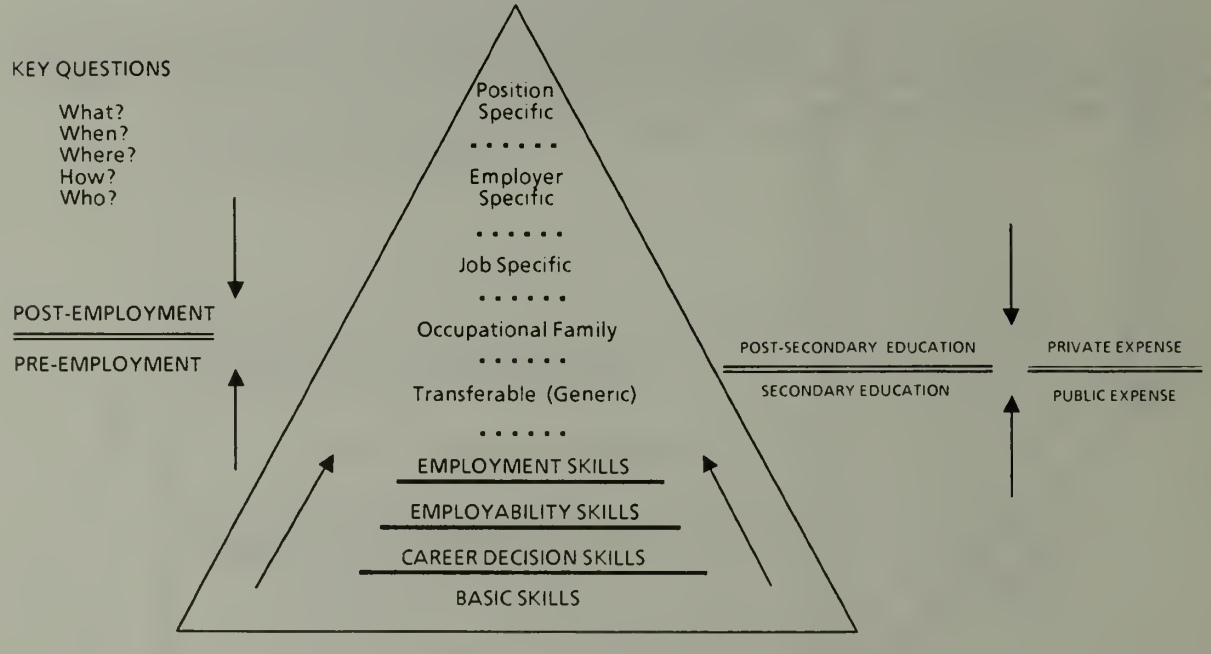
Research has indicated that to facilitate a smooth transition from school to the workplace, students should be able to:

- identify employment opportunities and engage in the job search process
- relate well to others
- demonstrate safe and sanitary behaviours
- practise ethical behaviours, including time and task management
- communicate effectively with peers and others
- demonstrate basic literacy and computational ability – reading, writing, mathematical and visual skills
- recognize the nature of entrepreneurship and the potential for entrepreneurial activities in our society.

These skills are collectively described as the "Generic Skills". Students who demonstrate these abilities at the completion of the Integrated Occupational Program should be able to obtain employment in a broad range of occupations. To enhance their employability opportunities, the occupational courses provide students with basic work skills that prepare them for entry to one or more clusters of occupations, as opposed to a specific job within that cluster. Commenting on the need for and purpose of generic skills, Dr. R.E. Taylor notes:

> "Proper treatment of generic skills in the educational process. . . contributes to efficiency in delivery. . . gives individuals flexibility and greater opportunity for job placement in related jobs. . . ; preserves options for individuals with respect to career choice and more specific training later."[1]

MODEL OF THE STAGES IN PREPARATION FOR EMPLOYMENT[1]



1. Taylor, R.E. "Generic Skills and Vocational Education." Paper presented in Edmonton, Alberta, February 1987. Dr. Taylor is Executive Director of National Centre for Research in Vocational Education, the Ohio State University.

Dr. Taylor defines the major components of his model as follows:

BASIC SKILLS: communication skills -- oral and written; computation skills; higher order cognitive skills such as reasoning and problem solving; interpersonal skills; learning skills

CAREER DECISION SKILLS: developing a sense of agency, ownership, and control through self-awareness; career awareness; knowledge of world of work trends and opportunities; career planning skills; career reassessment skills and career transition planning

EMPLOYABILITY SKILLS: knowledge of employment options; attitudes toward work; work habits; job seeking and retention skills

EMPLOYMENT SKILLS:

- Transferable – keyboarding; following instructions; planning; estimating; team work; group problem solving; quality control skills; scientific and computer literacy; work experience
- Occupational Family or Cluster – skills common across a cluster; e.g., terminology, material characteristics, material handling, blueprint reading, measurements, knowledge of processes, record keeping, safety and hygiene
- Job Specific – skills required to machine metal; lay brick; level a field; repair an internal combustion engine
- Employer Specific – working for General Motors of Canada Ltd.; machining metal for crankshafts for car; truck or tractor engines
- Position Specific – working for General Motors of Canada Ltd., in Plant X, machining metal crankshafts for small truck engines using a Cincinnati Milicron Automated Turning Centre Model X with tolerances of 0.000 under Supervisor Z with co-workers A, B, C, D

The components of Dr. Taylor's model have been adapted for use in the practical arts and occupational components of I.O.P. as indicated in the following chart:

I.O.P. OCCUPATIONAL MODEL	MODEL OF THE STAGES IN PREPARATION FOR EMPLOYMENT
Generic Skills	• Basic skills • Career decision skills • Employability skills
Work Skills	• Employment skills – an occupational cluster – a specific job – a specific employer – a specific position

STRATEGIES AND PROBLEMS IN LEARNING AND TEACHING GENERIC SKILLS

Dr. Taylor (1987) suggests that, in general, there are two main strategies being used in delivery to assure student mastery of generic skills. One is to parcel them out and teach them as a content area and as a precursor to more specific occupational orientations and applications. The other is to infuse them into more focussed or specific occupational training, and to teach their applications as a part of specific occupational preparation.

In the general approach, some of the more critical problems are those of the difficulty for teachers to cover the full range of generic skills and more limited student interest, motivation, and background for achieving them. Concepts or principles taught without applications can be dull. Generic skills should be taught in a range of situations in various occupational areas.

The second approach of integrating generic skills in occupational content has the benefit of higher student interest and motivation and an enhanced experiential background. It also provides specific contexts within which the generalized learnings may be applied.

Teachers should encourage students to indicate applications of generic skills to other occupations and contexts. This strategy will facilitate the development of the students' ability to transfer acquired concepts, skills, and attitudes to other settings and situations.

> "We must capacitate students as active partners for their own learning by giving them opportunities and responsibilities for establishing and recognizing learning goals, and opportunities for seeking out and achieving them both within the school curricular structure and within the home and community."

Cooperative planning for instruction with other teachers in the school (e.g., teachers of core subjects, other complementary courses) will contribute to the list of generic skills and to ways to reinforce these skills by expanding their range of application. Similarly, teachers of practical arts courses should take every opportunity to reinforce basic or core curricula skills in each practical arts learning activity.

Students and potential employers need documentation of generic skills mastered and the variety of contexts (occupational courses) in which these skills have been applied.

When teachers, students, parents, and the community are aware of the generic skills and other outcomes desirable to meet the goals of the Integrated Occupational Program, a partnership is formed. This partnership acknowledges and reinforces the generic skills, the learning process, and the outcomes of the learning process.

INTERPERSONAL SKILLS AND THE SOCIAL SPHERE

Junior high school students are in a transitional stage of life. Adolescence, which is characterized by rapid growth and the onset of puberty, is often a time of uncertainty and excessive concern about peer relationships. Responses in early adolescence may appear to be volatile and inconsistent, as students are developing the ability to reflect upon and analyze their emotions. Students at this age are practising to be adults.

Although schools are not the sole influences on the student's emotional, social and moral development, the instructional program does affect interpersonal learning.

The Goals of Secondary Education directly state the importance of affective, interpersonal and moral goals when they indicate that students should:

- learn about themselves and develop positive, realistic self-images
- develop constructive relationships with others based on respect, trust, cooperation, consideration and caring as one aspect of moral and ethical behaviour.

Students will vary in their emotional/social development and their ability to cope with personal problems. Behaviours viewed as "problematic" are often simply an indication of the adolescent's lack of sophistication in using adult skills. Classroom instruction must provide a variety of approaches that will encourage students to reflect upon their responses in social situations and to develop productive interpersonal skills. The guidelines that follow have been adapted from Alberta Education's monograph *Students' Interactions: The Social Sphere* (1988), and are intended to foster affective, interpersonal and moral learning within the classroom:

- Model appropriate behaviour for students. When teachers are polite and respectful of students' dignity, students will respond positively. Students imitate and thereby implicitly learn to deal with emotions, other people and moral issues by observing the consistency of adult behaviour.
- Encourage students to express their opinions and feelings, to ask questions and to accept emotions as they occur in day-to-day life. Through mediated learning, encourage students to examine emotional responses from different frames of reference, and to organize and interpret their own responses as well as the responses of others.
- Provide students with supportive comments, guidance and genuine expressions of concern. Set expectations that are firm and fair, and then believe in the students' ability to meet these expectations and do well. Develop "working agreements" to help tasks flow smoothly, and to ensure that students understand the nature of the instructional tasks they are asked to perform.
- Ensure that classroom management practices and rules are known, upheld, moderate in nature, negotiable, and consistently applied. Responding to the harmful or unjust effects/consequences of a moral transgression is more effective than reference to broken rules or unfulfilled social conventions.
- Recognize that experiential learning is a particularly effective vehicle for teaching interpersonal skills. Although some learning may occur through listening and reading, one best learns to live with other people by living with other people. Cooperative learning techniques are especially useful where students are actively involved in lessons linked to their own needs, interests or experiences.

- Be aware that although adolescents deal with a number of issues, they usually cope by managing one problem/issue in their lives at a time. Help students to integrate various aspects of their lives by encouraging them to recognize how various problems/issues/solutions are often interrelated.

- Assist students to learn skills that are more appropriate in differing contexts. Although some students are described as "lacking in social skills", socially maladapted students do not necessarily lack either skills or social involvement; rather, they use inappropriate skills in particular contexts. When directly teaching interpersonal skills, be as concrete as possible, and "build bridges" by linking situations with appropriate actions and behaviours.

- Assist students to focus on the need for a system of shared conventions. As students affirm the social system of conventions, they will view conventions more positively and will become less disruptive in their behaviour.

- Encourage students to interpret and evaluate the competing moral issues presented to them. Provide opportunities for open discussion and debate, where students interact with their peers. Discuss issues that are "real" to the student.

- Provide students with practical strategies for resolving interpersonal conflict. A framework for social problem solving is provided in the *Teacher Resource Manual*. This framework uses a problem-solving approach in helping students to identify:
  - reasons for the difficulty
  - strategies to avoid the conflict another time.

Student development in the affective, interpersonal and moral domains has been addressed in this curriculum through attitudinal learning objectives that accompany each cluster of concepts and skills in the program of studies. Instruction must include a balance of approaches appropriate to student development in each domain, as delivery of isolated content will not ensure the formation of desired attitudes. The *Teacher Resource Manual* provides additional strategies that facilitate attitudinal development within the context of themes suggested in the program.

REQUIRED AND ELECTIVE COMPONENTS

The learning objectives identified in this curriculum guide are the generic and required components of all of the Grades 8 and 9 practical arts courses. Learning objectives specific to the development of work skills within each thematic unit are identified in the *Teacher Resource Manual*.

Both the generic and the work skills learning objectives are designed to accommodate individual student differences through the identification of learning activities in each theme that provide the teachers and students with the flexibility to select, adapt and further develop course content to meet local needs, interests and resources.

The teacher is expected to make an assessment of each student's abilities upon entering a practical art course and to develop a teaching plan that provides each student with sufficient time to develop awareness and to experience success at each step of the course.

In this context, teachers are advised to individualize their expectations of student performance, and use the elective component of each course to provide remedial or enrichment activities to individual students by assessing their ongoing performance. The elective component of the practical arts permits teachers to:

- extend or expand upon topics, thus embedding additional concepts, skills and attitudes considered appropriate to student interest and need
- enrich the program by introducing new concepts and activities considered relevant to the student and the local community
- remediate or reinforce skills from the required component that appear to be weak.

The instructional time for the practical arts should be apportioned:

- 80% Required
- 20% Elective.

PLANNING

GENERAL COURSE PLANNING

Since the I.O.P. courses will be offered in a number of very different communities and schools, a flexible approach to course delivery is necessary. Some jurisdictions may choose to offer the three components of I.O.P. on a consecutive set of interrelated learning activities. Other jurisdictions may choose to integrate I.O.P. students into regular practical arts courses – Business Education, Home Economics, Industrial Arts. The I.O.P. Practical Arts course offerings in individual schools should be selected to accommodate the:

- needs of students
- availability of school facilities
- availability of community resources

CONTENT

Three courses comprise the I.O.P. Practical Arts program:

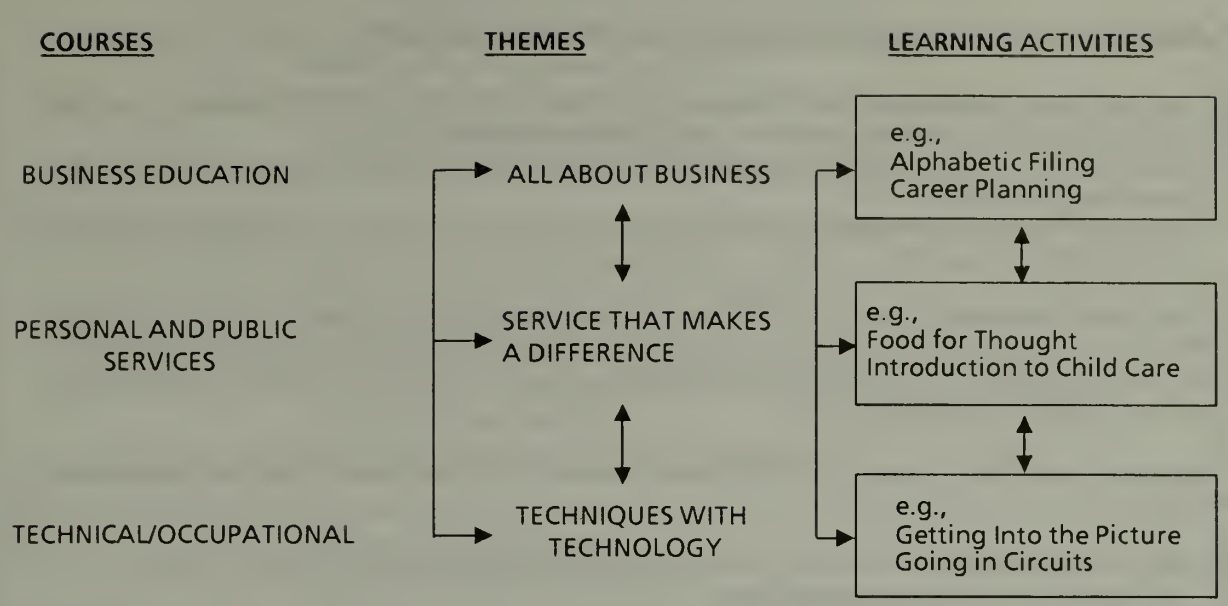
- Business Education, Grades 8 and 9
- Personal and Public Services, Grades 8 and 9
- Technical/Occupational, Grades 8 and 9.

The course content for the three courses consists of:

- Generic and Work Skills: the concepts, attitudes and skills that comprise this component of each course are outlined in the "Expanded Statement of Content, Grade 8" and the "Expanded Statement of Content, Grade 9".
- Thematic Learning Activities: a collection of activities is organized in each of three themes:
  - All About Business
  - Service That Makes a Difference
  - Techniques with Technology.

The themes provide the vehicle by which the generic and work skills are taught and learned. The thematic learning activities are located in the *Teacher Resource Manual*.

The model on the following page shows the relationship between the three courses that comprise the I.O.P. Practical Arts program, the themes, and their related learning activities. Some learning activities are applicable to more than one course/theme. For example, "Operating a Small Business" may be taught in each of the three courses/themes; however, if taught more than once, the objectives (concepts, skills and attitudes) should be taught in different occupational contexts.



The matrix of the thematic learning activities and their relationship to the eight occupational clusters is shown on page 18.

TIME ALLOCATION

I.O.P. Practical Arts is composed of three complementary courses within the junior high school program:

- Business Education, Grades 8 and 9
- Personal and Public Services, Grades 8 and 9
- Technical/Occupational, Grades 8 and 9.

Each I.O.P. student is required to receive a minimum of 225 hours and a maximum of 380 hours of instruction in I.O.P. Practical Arts in each of Grades 8 and 9. In each of these years, I.O.P. Practical Arts will account for a maximum of forty percent of each I.O.P. student's learning activities.

COMMUNITY PARTNERSHIPS

A major feature of the I.O.P. Practical Arts is the inclusion of activities and strategies that may be used to enhance student learning through school-community partnerships. Community partnerships include both in-school visits, demonstrations, talks, etc., given by community members, and teacher/student observations, job-shadowing, work study and work experience activities within the community. In I.O.P. Practical Arts, Grades 8 and 9 level, teachers are encouraged to develop their instructional plan to include a minimum of 10% time allocation to community partnership activities.

CURRICULAR INTEGRATION

Teachers have traditionally tended to integrate concepts, attitudes and skills from other subject areas into their teaching specialty; however, this tendency has generally been incidental rather than by curricular and instructional design. In contrast, the Integrated Occupational Program is designed to integrate related knowledge, skills and attitudes across the curriculum. In addition, teachers in the program are encouraged to adopt integrated planning and teaching strategies.

PLANNING AN INTEGRATED UNIT OF INSTRUCTION

The *Teacher Resource Manual* (TRM) developed by Alberta Education contains teaching strategies and thematic learning activities intended to structure and support:

- development of the concepts, attitudes and skills outlined in the Program of Studies and Statement of Content
- delivery of thematic instruction in three theme areas described as covering the required components of this course.

Teachers are encouraged to develop and use additional themes and learning activities to meet the needs and interests of their students, to accommodate the school's facilities and resources, and to maximize opportunities for community partnerships. Figure 1 provides a guide for planning an integrated thematic learning activity.

The generic concepts, attitudes and skills are addressed in the first part of the *Teacher Resource Manual*.

Generic concepts and their related skills and attitudes focus on the development of students':

- knowledge about high school programs
- knowledge about the world of work
- knowledge about job opportunities and career ladders
- awareness of and ability to demonstrate safe use and sanitary practices in the workplace
- attitudes appropriate to good citizenship, good workmanship and lifelong learning.

In addition, the generic concepts and their related attitudes and skills, APPLY, REINFORCE and REVIEW concepts, skills and attitudes learned in the core curricular areas. These integrated generic concepts permit further skill development in the areas of:

- communication
- computation
- human relations
- reading
- writing
- viewing.

THE GENERIC CONCEPTS AND THEIR RELATED ATTITUDES AND SKILLS SHOULD, WHENEVER POSSIBLE, BE TAUGHT IN CONJUNCTION WITH THE WORK SKILLS IDENTIFIED FOR EACH THEMATIC LEARNING ACTIVITY AND IN THE CONTEXT OF ONE OR MORE OCCUPATIONAL CLUSTER(S).

Three thematic units comprise the second part of the *Teacher Resource Manual*:

- ALL ABOUT BUSINESS
- SERVICE THAT MAKES A DIFFERENCE
- TECHNIQUES WITH TECHNOLOGY.

Each unit consists of ten learning activities and each activity is related to one or more of the eight occupational clusters. A suggested grade level for each activity is indicated; however, teachers are encouraged to use the activities provided and to supplement and complement them in ways that best meet the needs of their students, the availability of facilities and resources, and their relationship to potential community partnership activities. Additional support materials are indicated for thematic learning activities.

Figure 2 shows the relationship between the eight occupational clusters and:

- the thematic units of instruction
- the suggested learning activities within each theme
- the suggested grade level of instruction for each learning activity.

FIG. 1
PLANNING AN INTEGRATED UNIT OF INSTRUCTION

1. Identify a possible theme, based on:
   - curriculum objectives (adequacy in covering basic skills)
   - student needs/interests/abilities
   - availability of suitable learning resources.

2. Develop a purpose for the theme. Include:
   - thematic objectives
   - a checklist of concepts, attitudes and skills that lend themselves to the theme. Identify those skills that may need some focussed/direct teaching
   - a checklist of process objectives/procedures.

3. Consider suitable resources:
   - books, pamphlets, magazines
   - computer software and other technology
   - shop manuals
   - community contacts
   - newspapers and magazine articles.

4. Design learning activities:
   - allocate activities to purposes developed in STEP 2
   - sequence the learning activities.

5. Develop ongoing strategies to build community partnerships into your theme:
   - involvement in local events
   - field trips
   - guest speakers
   - demonstrations
   - mentorships.

6. Plan for evaluation:
   - student evaluation
   - teacher's ongoing and summative evaluation.

7. Share the unit:
   - other teachers need access to good work!
   - expand, keep current, re-work the unit, every time it is used by any teacher
   - as others experiment and your unit enlarges, develop a mechanism for evaluating all the activities with different classes of students.

FIG. 2

I.O.P. PRACTICAL ARTS, GRADES 8-9

MATRIX OF OCCUPATIONAL CLUSTERS AND THEMATIC LEARNING ACTIVITIES

THEMATIC UNITS		Suggested Grade	OCCUPATIONAL CLUSTERS							
THEMES	LEARNING ACTIVITIES		Ag.	Bus.	C.F.	C.A.	N.R.	P.P.S.	T.H.	Tr.
ALL ABOUT BUSINESS	ALPHABETIC FILING	8	x	x	x	x	x	x	x	x
	CAREER PLANNING	8-9	x	x	x	x	x	x	x	x
	PREPARING TO KEYBOARD	8		x				x	x	x
	KEYBOARDING: THE ALPHABETIC KEYBOARD	8		x		x		x	x	x
	TELEPHONE DIRECTORIES: WHO'S WHO AND WHAT'S WHAT	8	x	x	x	x	x	x	x	x
	THE TELEPHONE: MAKING THE CONNECTION	8	x	x	x	x	x	x	x	x
	KEYBOARDING: BUILDING SKILLS	9		x		x		x	x	x
	KEEPING ON TRACK: SPECIALIZED FILING SYSTEMS	9	x	x	x	x	x	x	x	x
	OPERATING A SMALL BUSINESS	9	x	x	x	x		x	x	x
	THE RECEPTIONIST: CREATING THE FIRST IMPRESSION	9		x				x	x	x
SERVICE THAT MAKES A DIFFERENCE	FOOD FOR THOUGHT	8						x	x	
	INTRODUCTION TO CHILD CARE	8		x				x	x	
	PERSONAL GROOMING	8-9	x	x	x	x	x	x	x	x
	SAFETY AND FIRST AID	8	x	x	x	x	x	x	x	x
	SEWING SKILLS: IT'S SO EASY	8		x		x		x	x	
	BABY-SITTING: CERTIFICATE COURSE	9		x				x	x	
	CONSUMERISM: BUYING FOR PROFIT	9	x	x	x	x	x	x	x	x
	PARTY TIME	9		x				x	x	
	SERVICE AND TECHNOLOGY	9		x				x	x	
	SMILE, YOU'RE A TOURIST ATTRACTION	9	x	x	x	x	x	x	x	x
TECHNIQUES WITH TECHNOLOGY	GETTING INTO THE PICTURE	8		x		x		x	x	
	GOING IN CIRCUITS	8	x		x		x		x	x
	HEAVY METAL	8	x		x	x	x			
	SAFETY: THE TOOLS OF THE TRADE	8	x	x	x	x	x	x	x	x
	WHEELING AND DEALING	8								
	DESIGN TECHNOLOGY	9	x	x	x	x	x	x	x	x
	GETTING INTO THE BIGGER PICTURE	9		x		x				
	GIVE IT THE GAS: BUILDING A MODEL DRAGSTER	9	x		x	x	x			x
	JOINING FORCES: CONSTRUCTING AN EXTENSION CORD	9	x	x	x	x	x	x	x	x
	SMALL ENGINE MAINTENANCE	9	x	x	x	x	x	x	x	x

KEY: Ag. – Agriculture; Bus. – Business and Office Operations; C.F. – Construction and Fabrication; C.A. – Creative Arts; N.R. – Natural Resources; P.P.S. – Personal and Public Services; T.H. – Tourism and Hospitality; Tr. – Transportation.

LEARNING RESOURCES FOR I.O.P. PRACTICAL ARTS 8 AND 9

STUDENT RESOURCES

The resources listed below support development of the concepts, attitudes and skills identified in this curriculum, and are recommended for use by students in I.O.P. Practical Arts courses as indicated:

BUSINESS EDUCATION

Jackson, T. et al. *Alphabetic Keyboarding*. Agincourt, Ontario: Southwestern Publishing Company c/o Gage Publishing, 1983.
Recommended

Superkey. Richmond Hill, Ontario: Bytes of Learning, 1985.
Recommended

PERSONAL AND PUBLIC SERVICES

Foster, J.A. et al. *Creative Living*, Canadian Edition (student edition). Don Mills, Ontario: Collier Macmillan Canada, Inc., 1985.
Basic

Dalton, W.J. *The Professional Cosmetologist*, Third Edition, West Publishing Company, 1985.
Recommended

Sixty Minute Metric Chef. Langley, British Columbia: School District No. 35, Langley, 1982.
Recommended

Sixty Minute Metric Chef 2. Langley, British Columbia: School District No. 35, Langley, 1982.
Recommended

Weber, J. *Clothing: Fashion, Fabrics and Construction*. Bennett and McKnight Publishing Co., 1986.
Recommended

TECHNICAL-OCCUPATIONAL

General Industrial Education. Glencoe Publishing Company, Bennett and McKnight Division, 1988.
Basic

TEACHER RESOURCES

A *Teacher Resource Manual* (1989) has been developed by Alberta Education to assist teachers in their planning for instruction of I.O.P. Practical Arts, Grades 8 and 9.

TECHNOLOGY AND THE MEDIA

Films related to a variety of occupational contexts may be obtained from:

- ACCESS Alberta
- Alberta Labour Occupational Health and Safety
- Alberta Safety Council
- Canadian Red Cross
- St. John Ambulance.

ADDITIONAL SUPPORT MATERIALS

Additional thematic learning resources listed below have been identified as potentially useful when integrating the instruction of the generic concepts with the thematic learning activities. Except where designated, these titles have not been evaluated by Alberta Education and their listing is not to be construed as an explicit or implicit departmental approval for use. These titles are provided as a service only, to assist local jurisdictions in identifying potentially useful learning resources. The responsibility for evaluation of these resources prior to selection rests with the local jurisdiction.

ALL ABOUT BUSINESS

Alberta Career Development and Employment publications, including:
- Job Seekers Handbook
- The Easy-To-Read Career Planning Guide.

Employment and Immigration Canada publications, including:
- Creative Job Search Techniques, 1987.

Computer Courseware.

Letter of Recognition and Alphabetization, Milliken Publishing Company.

The introductory pages of most keyboarding and word processing textbooks may be used to introduce the following concepts, skills and attitudes:
- Work station organization
- Posture
- The keyboard
- Keyboarding procedures.

SERVICE THAT MAKES A DIFFERENCE

Cosmetology: The Art of Making-Up. Gage Educational Publishing Company, 1987.

Surprise! You're in Tourism. Travel Alberta (Instructional Manuals).

TIPS: Alberta Consumer and Corporate Affairs:
CCA-05.160 Food Shopping Skills
CCA-05.164 Home Improvements: How to Hire a Contractor
CCA-05.165 Household Moving
CCA-05.178 Used Car Buying
CCA-05.183 Children's Allowances
CCA-05.190 Auto Repairs and Estimates.

TECHNIQUES WITH TECHNOLOGY

Films related to safety in a variety of occupational contexts may be obtained from:
- ACCESS Alberta
- Alberta Labour Occupational Health and Safety
- Alberta Safety Council
- Canadian Red Cross
- St. John Ambulance.

METHODOLOGY

Emphasis has been placed on relating much of the content of I.O.P. Practical Arts, Grades 8 and 9 to concepts, skills and attitudes learned across the curriculum. The transferable and related content of each thematic learning activity in the practical arts are described as "generic skills".

In addition to the body of generic skills, each of the three thematic units is identified by a series of learning activities designed to develop a body of transferable work skills. It is through the development of these work skills that students learn the generic skills in an applied and meaningful context; that is, through relating practical arts learning activities to one or more occupational clusters.

The design of the core and the practical arts subject areas within the Integrated Occupational Program is developed on the premise that the concepts, skills and attitudes required by students in order to make the transition from school to the workplace can be taught through strategies that provide for APPLICATION, REINFORCEMENT and REVIEW of learnings in real life contexts and situations.

The I.O.P. Practical Arts course provides a real life context for the review, reinforcement and application of concepts and skills learned in other courses, both core and complementary.

Generic skills and work skills should be taught in an integrated and meaningful context. Both generic skills and work skills are transferable. The generic skills are transferable across the curricula; the work skills are transferable across one or more occupational cluster(s). For example, learning the correct use of hand, power and measuring tools, provides students with concepts, skills and attitudes that are applicable in almost every occupational cluster as well as a variety of home and community situations.

Teachers are encouraged to make students aware that by developing both generic and work skills they are increasing their prospects of finding part-time employment, starting to identify and climb a career ladder, and becoming responsible members of society.

Generic Skills + Work Skills = Employment + Life Skills

INSTRUCTIONAL STRATEGIES

In recent years, a greater awareness of individual differences in learning styles, rates of learning, and the needs of individual students has fostered changes in attitudes, teaching methods and curriculum materials. These changes mean that occupation-related courses are being redesigned to increase the opportunity for each student to learn and develop a body of concepts, skills and attitudes that will enhance employability, develop citizenship skills, and promote lifelong learning.

Instructional strategies that may assist the teacher of a practical arts course to achieve these goals include:

Curriculum Strategies

- Modify the sequence and, if necessary, the scope of the curriculum to reflect the ability of the students.
- Use additional learning activities, student activities and community partnerships to provide enrichment.
- Integrate one or more generic skills, as appropriate, while teaching each work skill.
- Increase the meaningfulness of the curriculum by adapting it to meet local industrial and job opportunities.
- Use community partnerships to create real life learning experiences.

Teaching Strategies

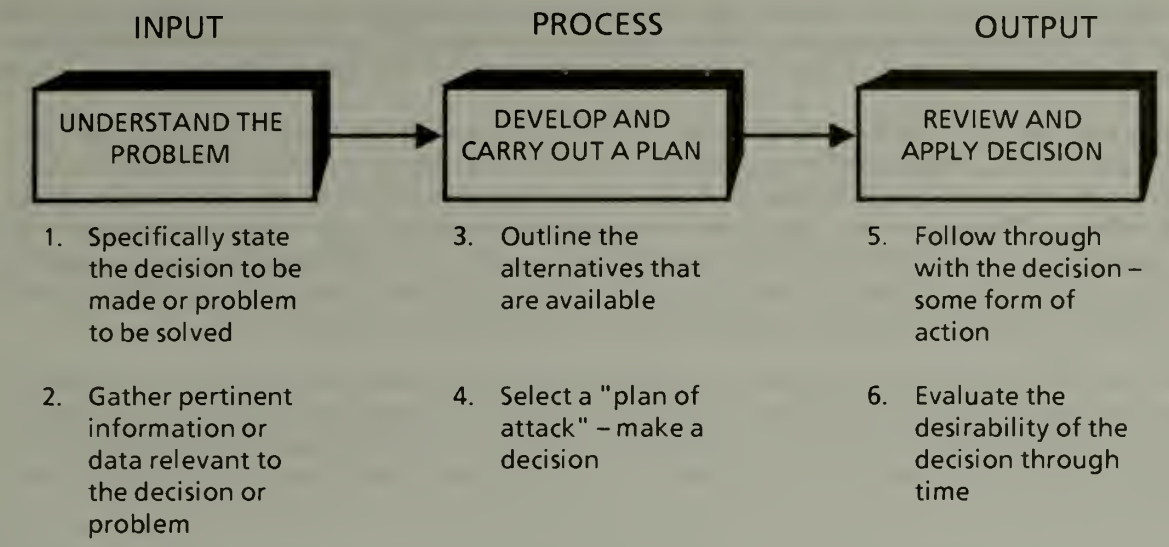
- Use varied instructional strategies; e.g., individualized instruction, small-group instruction, job shadowing, mentorship and other community partnerships.
- Involve students in creating their learning environment; e.g., have students "personalize" their work area, decide on seating arrangements, elect "shop" supervisors.
- Minimize lectures.
- Maximize hands-on activities.
- Use visual aids to teach, review and reinforce information.
- Encourage students to take some responsibility for their own and peers' behaviour, attendance, performance; e.g., foster an environment of helping, sharing and caring.
- Use incremental teaching-learning techniques.

USING THE PROBLEM-SOLVING/DECISION-MAKING MODEL

The problem-solving and decision-making model used throughout the I.O.P. Practical Arts, Grades 8 and 9 curriculum does not form an independent theme or unit of study. However, it is essential the teacher introduce the model at the beginning of the course. It will then form the basis for problem solving, decision making and thinking throughout the entire program.

Critical to the development of decision-making skills is the attitude with which students approach the task. A positive, open-minded approach is needed for thinking skills to develop. Attitudes are not taught, however. Their development can only be nurtured through an atmosphere that fosters flexibility and acceptance. Students must be encouraged to take risks in the development of particular decision-making strategies. Student understanding of problem situations and the decision-making process should be made a priority through consideration of the context within which discussion and activity will take place. Problem situations should be selected from those that are within the range of student experience, interest and need.

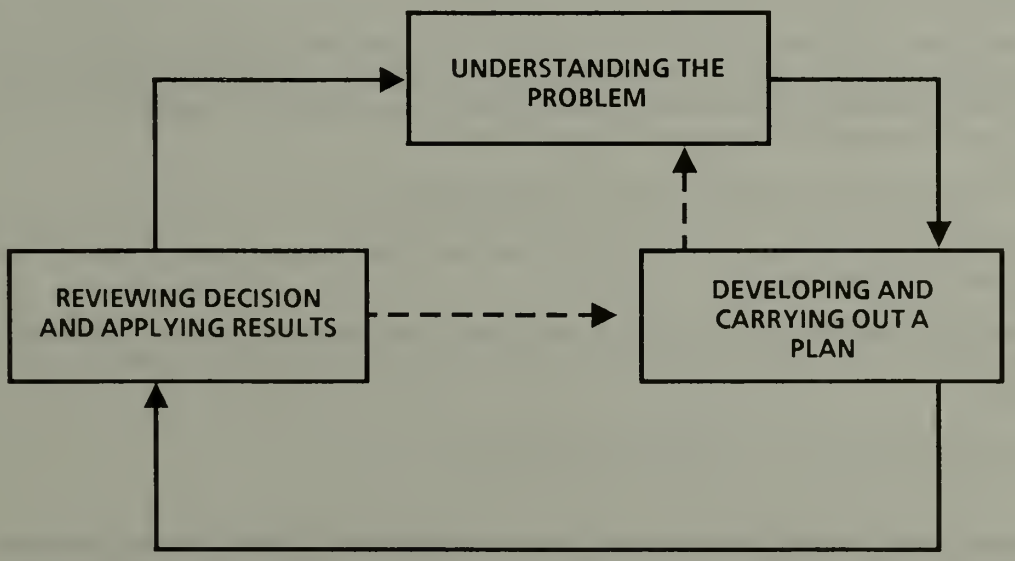
The six steps of the decision-making model correlate with the input, processing and output phases of cognitive functions.


INPUT
PROCESS
OUTPUT
UNDERSTAND THE PROBLEM
DEVELOP AND CARRY OUT A PLAN
REVIEW AND APPLY DECISION
1. Specifically state the decision to be made or problem to be solved
2. Gather pertinent information or data relevant to the decision or problem
3. Outline the alternatives that are available
4. Select a "plan of attack" – make a decision
5. Follow through with the decision – some form of action
6. Evaluate the desirability of the decision through time

The student must become an active participant in this process. Conscious application of this model results in metacognition or "thinking about thinking". Metacognition thus becomes a second major goal of this process. Continuous application of this process erodes mental sets and allows the student to function in a more flexible, adaptive manner.

Flexibility and adaptability of attitudes, problem-solving and decision-making strategies are the key to productive functioning in a dynamic, ever-changing society.

The decision-making model outlined should not be interpreted as a model consisting of fixed and rigid stages and strategies. Its use will depend on individual problems and individual students. Students may not always use each stage of the decision-making process, and will select only those strategies that are appropriate to the problem. Students should recognize decision making, however, as a series of interrelated actions that lead to a solution.



ENHANCING STUDENT PARTICIPATION IN THE LEARNING PROCESS

I.O.P. Practical Arts attempts to have students become active participants in their community and society. The course also attempts to have students become an active participant in the decision-making and learning processes.

Student performance in decision making can be enhanced by making students conscious of their thought process (i.e., metacognitive awareness). They need to be aware of and discuss how they think in order to become more strategic in their learning repertoires, and to monitor their decision-making efforts. The teacher can foster this by thinking out loud as he or she solves problems, by asking questions, and by having students identify the strategies and processes used when making decisions. Consistent modelling by the teachers of a mind set to the stages and strategies outlined will provide a structure within which student decision-making skills can develop.

Instructional mediation is one method of enhancing students' active participation in the learning process (Feuerstein, 1979[1]). Mediation refers to the teacher transmitting to the student what is considered important by the community and society. It also refers to the teacher's interpretation of the physical and social context for the student. To be "mediative", the act must meet at least three criteria:

- the mediation must be MEANINGFUL. Teachers should constantly refer to "real life" examples of how the content relates to reality, both in and out of school
- it must be the teacher's INTENTION to have the student learn something specific. The teacher should ensure the student understands specifically what has to be learned
- the mediation must have a TRANSCENDENT goal. The teacher should ensure the student is able to apply what has been learned to other contexts and situations.

Specific sentence stems can be used in classroom mediation:

- What is the relationship between . . . and . . . ?
- How are . . . and . . . related? How are they similar? How are they different?
- What is the likelihood that . . .?
- In what different ways can we approach the problem?
- Have you considered . . . from . . . point of view?

Refer to the "Suggested Teaching Strategies" section of the *Teacher Resource Manual* for further information on mediation, mnemonic and other teaching strategies.

The PMI strategy (de Bono, 1986[2]) also helps students systematically explore a subject indepth. This strategy focuses students' attention on the "Plus" (P) aspects, then the "Minus" (M) aspects, and finally the "Interesting" (I) aspects of a concern or issue. This strategy also allows students to view how others think. The following four-step procedure can be used:

1. Assign a topic or task based upon student interest or course content.

2. Divide the class into groups of three or four students and have them divide a sheet of paper into three columns labelled (P), (M) and (I).

3. Ask students to <u>think</u> about the "Plus", "Minus" and "Interesting" points of the discussion topic or task and write them in the appropriate column. NOTE: All points are to be accepted without judgment or bias.

4. Share the points raised with the rest of the class, and discuss.

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1. Feuerstein, Reuven. *The Dynamic Assessment of Retarded Performers: The Learning Potential Assessment Device, Theory*. Instruments and Techniques, Baltimore, Maryland: University Park Press, 1979 (p. 71).
2. de Bono, Edward. "The Practical Teaching of Thinking Using the CoRT Method", *Special Services in the Schools*, Volume 3, Numbers 1/2 Fall/Winter 1986 (p. 39).

A practical extension to this strategy might be to have each group of students produce a project based on the outcome of their PMI strategy. Each group of students will then have the opportunity to evaluate their decision-making and project production skills in relation to the other groups.

EVALUATION

Evaluation involves the collection, processing and use of information to formulate judgments about student progress, ability and performance. Teachers of I.O.P. Practical Arts will therefore need to undertake both formative and summative evaluation. Because of the nature of the courses and the nature of the students, ongoing or formative evaluation should be emphasized. Formative evaluation provides information during the process of learning to determine the progress of individual students, and their strengths and weaknesses in the acquisition of necessary concepts, skills and attitudes. Summative evaluation should also occur at the end of each major segment of a course to assist in making judgments about the overall level of achievement in the course, final grades, and future course placement.

In the practical arts, summative evaluation may refer to the mastery of a specific practical skill or combination of skills. The evaluation of skill mastery tends, however, to be very subjective. Teachers are encouraged to seek assistance from colleagues and community partners when evaluating mastery of practical skills.

PRINCIPLES OF EVALUATION

Evaluation should:

- assist students to formulate an accurate and realistic view of their abilities and performances
- be an ongoing process
- be valid and reliable
- consider individual differences
- be comprehensive across both the generic and work skills
- be based on a variety of techniques including observation, conferences, checklists, presentations, projects, conferences, and tests
- be based on individual student growth.

STRATEGIES FOR EFFECTIVE EVALUATION

A variety of methods of evaluating students' progress should be used in I.O.P. Practical Arts, Grades 8 and 9. When choosing an evaluation strategy, the teacher should consider the appropriateness of the procedure to the concepts, skill or attitude being evaluated.

Students in Integrated Occupational Program courses generally need to improve their self-concept. With this in mind, the following evaluation strategies are suggested:

- identify the smallest units of behaviour in each skill
- evaluate and reinforce progress incrementally
- evaluate and reinforce positive behaviour regularly
- use a combination of evaluation techniques including checklists, observations, project work, written and oral presentations (sample evaluation instruments are included in the *Teacher Resource Manual* for each practical arts course)
- use self and peer evaluation techniques
- provide immediate feedback whenever possible
- permit students easy access to records of achievements
- use community partners to assist in student evaluation; e.g., through customer service activities
- display students' work where appropriate to enhance students' self-esteem and motivation.

SCOPE AND SEQUENCE

	Grade 8	Grade 9
1 Career Awareness	1 Career Awareness	1 Career Awareness
A. Occupational Clusters	A.1 Identifies scope of occupational clusters available in local high schools.	A.1 Selects occupational clusters for exploration in Grade 10.
B. Related Courses	B.1 Identifies range of related courses available in local high schools.	B.1 Selects occupational courses for exploration in Grade 10.
C. Jobs and Careers	C.1 Recognizes the differences between a job and a career. C.2 Becomes aware of job and career potential in each occupational cluster.	C.1 Recognizes the value of short-term job and long-term career plans. C.2 Identifies part-time jobs in the community. C.3 Projects future career opportunities.
D. Lifelong Learning	D.1 Defines and describes "lifelong learning". D.2 Associates continuing education opportunities with occupational clusters.	D.1 Recognizes the value of lifelong learning. D.2 Identifies opportunities for continuing education.
E. Job Search	E.1 Recognizes job search as a process. E.2 Identifies the basic parts of the job search process.	E.1 Identifies forms and other written materials used in the job search process. E.2 Identifies personal interests and abilities. E.3 Relates personal interests and abilities to job and career plans. E.4 Applies for part-time employment (paid or volunteer).

	Grade 8	Grade 9
2 Human Relations	2 Human Relations	2 Human Relations
A. Personal Development	A.1 Identifies personal strengths and limitations. A.2 Recognizes the meaning and importance of "motivation", "initiative" and "responsibility". A.3 Identifies the implications of flexible, innovative and creative behaviours. A.4 Recognizes the meaning and importance of "self-esteem". A.5 Recognizes the value of self-praise and criticism. A.6 Recognizes the importance of personal appearance.	A.1 Develops personal strengths. A.2 Becomes aware of personal limitations. A.3 Identifies personal goals. A.4 Recognizes areas for potential growth. A.5 Demonstrates responsible behaviour. A.6 Demonstrates flexible, innovative and creative behaviour in appropriate contexts. A.7 Exhibits pride in personal achievements. A.8 Copes effectively with criticism and change. A.9 Maintains a well-groomed appearance.
B. Interpersonal Relationships	B.1 Shows respect for others. B.2 Displays courtesy. B.3 Describes the respective roles of employers and employees. B.4 Explains the concept of "assertive behaviour".	B.1 Relates well to peers and adults. B.2 Recognizes rights of others. B.3 Shows respect for lawful authority. B.4 Displays appropriate assertive behaviour.
C. Communications	C.1 Follows simple instructions. C.2 Demonstrates an understanding of basic occupational terminology. C.3 Uses appropriate conversational skills. C.4 Uses appropriate non-verbal communication skills. C.5 Listens effectively. C.6 Writes legibly.	C.1 Reads simple business correspondence. C.2 Writes simple business correspondence. C.3 Uses basic occupational terms. C.4 Recognizes and follows visual instructions. C.5 Asks questions. C.6 Seeks help when needed. C.7 Develops public communication skills.

	Grade 8	Grade 9
3 Organization and Planning	**3 Organization and Planning**	**3 Organization and Planning**
A. Work Habits	A.1 Identifies the importance of time management. A.2 Identifies the importance of task management. A.3 Attends regularly. A.4 Identifies need for organizational skills in the workplace.	A.1 Attends regularly. A.2 Is punctual. A.3 Completes work on time.
B. Decision Making	B.1 Identifies a problem. B.2 Identifies the stages in a simple problem-solving process. B.3 Identifies the components of a task.	B.1 Identifies the problem. B.2 Formulates a plan. B.3 Recognizes alternative courses of action. B.4 Establishes desirable outcomes. B.5 Identifies criteria for evaluating outcomes. B.6 Portrays the problem-solving/decision-making processes graphically. B.7 Applies a simple decision-making/ problem-solving process to a task.
C. Computations	C.1 Reads numbers up to four digits. C.2 Uses four basic math functions. C.3 Rounds off decimals to two places. C.4 Counts money to $100.00. C.5 Identifies basic units of measurement. C.6 Identifies measuring tools. C.7 Recognizes uses of charts and graphs.	C.1 Applies basic computations to a task. C.2 Calculates simple percentages. C.3 Makes change for purchases up to $100.00. C.4 Recognizes the uses of metric and imperial measures. C.5 Draws and interprets a simple table, chart and graph.
D. Standards	D.1 Identifies types and uses of standards in the workplace. D.2 Identifies general safety standards. D.3 Identifies importance of personal and public hygiene practices. D.4 Identifies task related standards.	D.1 Identifies related occupational standards. D.2 Describes related occupational safety standards. D.3 Describes personal and public hygiene practices. D.4 Completes projects and/or provides services to acceptable standards.

	Grade 8	Grade 9
4 Entrepreneurship	4 Entrepreneurship	4 Entrepreneurship
A. Entrepreneurial Awareness	A.1 Explores self-directed activities at home, in school, and in the community.	A.1 Identifies potential entrepreneurial opportunities in occupational clusters.
B. Small Business Operations	B.1 Identifies basic small business operating procedures.	B.1 Participates in the operation of a business venture within the school.
C. Field Experiences	C.1 Participates in various field experiences.	C.1 Initiates a community partnership activity.

	Grade 8	Grade 9
5 Work Skills*	5 Work Skills	5 Work Skills
A. Employability	A.1 Defines "employability". A.2 Recognizes the difference between employability and work skills.	A.1 Describes and compares work skills and employability skills related to occupational clusters.
B. Safety	B.1 Identifies safety practices used in the workplace. B.2 Demonstrates safe work practices.	B.1 Practises safe work habits. B.2 Demonstrates safe handling of tools, equipment and supplies.
C. Sanitation	C.1 Identifies sanitary practices used in the workplace. C.2 Demonstrates appropriate personal and public hygiene practices.	C.1 Practises sanitary work habits. C.2 Demonstrates appropriate task related sanitation practices.
D. Tools, Equipment, Supplies	D.1 Identifies task related tools, equipment, supplies. D.2 Uses basic tools, equipment and supplies correctly.	D.1 Selects and uses correct tool for the job.
E. Projects	E.1 Follows project instructions. E.2 Completes projects to acceptable standards.	E.1 Completes required number of projects. E.2 Designs and produces a self-directed project.

*Work Skills are addressed in the *Teacher Resource Manual* in the following themes:

- All About Business
- Service That Makes a Difference
- Techniques with Technology

STATEMENT OF CONTENT

The Integrated Occupational Program Practical Arts, Grades 8 and 9, profiles outline the CONCEPTS, SKILLS and RELATED ATTITUDES; i.e., this provides the detail for the top face of the development model. Each concept is a main heading for a family of related attitudes and skills. Together, a concept and its related attitudes and skills form an instructional strand. For example:

2	**HUMAN RELATIONS**	**B. PERSONAL DEVELOPMENT** Identifies personal strengths and limitations	Recognizes the meaning and importance of "motivation", "initiative", "responsibility"	Identifies the implications of flexibility, innovative and creative behaviours

The related attitudes and skills are arranged in order of priority; however, teachers are encouraged to be flexible when planning for instruction and when integrating the teaching of each related skill:

- into the context of each practical arts learning activity
- into a sequence that best meets the needs of students.

The profile identifies five concepts and their related attitudes and skills. Concepts 1-4 are categorized as generic; that is, they apply to each and every learning activity. Concept 5, Work Skills, identifies concepts, attitudes and skills which are transferable between two or more occupational clusters that comprise the senior high occupational component of the Integrated Occupational Program.

The "Program of Studies/Presentation of Content" follows each profile:

- Column one, Learning Objectives, outlines the concepts, skills and attitudes that students should be able to demonstrate after successfully completing an occupational course. The shaded portions represent the program of studies.

  The learning objectives are numbered following the sequence indicated in the I.O.P. Practical Arts profiles, Grades 8 and 9. These objectives relate to the following five concepts:

  1. Career Awareness
  2. Human Relations
  3. Organization and Planning
  4. Entrepreneurship
  5. Work Skills

- Column two, Related Life Skills, provides teachers with indications of life skills related to each learning objective. These related life skills are designed to assist teachers to introduce students to new material by relating it to previously acquired learnings.

- Column three, Related Applications Across the Curriculum, indicates how cooperative unit and lesson planning will facilitate improved student learning of related concepts, skills and attitudes in core and other complementary courses.

- Column four, Suggested Strategies/Activities, identifies a number of teaching strategies and activities that may be used to enhance the teaching-learning process. In this context, teachers are encouraged to assess the needs of their students and to use, adapt, complement, supplement the strategies and activities suggested with others that best meet the needs of their students.

I.O.P. PRACTICAL ARTS PROFILE, GRADE 8

1 CAREER AWARENESS

	1	2	3	4
	A. OCCUPATIONAL CLUSTERS Identifies scope of occupational clusters available in local high schools			
	B. RELATED COURSES Identifies range of related courses available in local high schools			
	C. JOBS AND CAREERS Recognizes the difference between a job and a career	Becomes aware of job and career potential in each occupational cluster		
	D. LIFELONG LEARNING Defines and describes lifelong learning	Associates continuing education opportunities with occupational clusters		
	E. JOB SEARCH Recognizes job search as a process	Identifies the basic parts of the job search process		

2 HUMAN RELATIONS

	1	2	3	4
	A. PERSONAL DEVELOPMENT Identifies personal strengths and limitations	Recognizes the meaning and importance of "motivation", "initiative", "responsibility"	Identifies the implications of flexibility, innovative and creative behaviours	Recognizes the value of self-praise and criticism
	B. INTERPERSONAL RELATIONS Shows respect for others	Displays courtesy	Describes the respective roles of employers and employees	Explains the concept of "assertive behaviour"
	C. COMMUNICATIONS Follows simple instructions	Demonstrates an understanding of basic occupational terminology	Uses appropriate conversational skills	Uses appropriate non-verbal communication skills
		5 Listens effectively	6 Writes legibly	

I.O.P. PRACTICAL ARTS PROFILE, GRADE 8 (cont'd)

		1	2	3	4
3	ORGANIZATION AND PLANNING	***A. WORK HABITS*** Identifies the importance of time management	Identifies the importance of task management	Attends regularly	Identifies need for organizational skills in the workplace
		1	2		
		B. DECISION MAKING Identifies a problem	Identifies the stages in a simple problem-solving process		
		1	2	3	4
		C. COMPUTATIONS Reads numbers up to four digits	Uses four basic math functions	Rounds off decimals to two places	Counts money to $100.00
			5	6	7
			Identifies basic units of measurement	Identifies measuring tools	Recognizes uses of charts and graphs
		1	2	3	4
		D. STANDARDS Identifies types and uses of standards in the workplace	Identifies general safety standards	Identifies importance of personal and public hygiene	Identifies task related standards
		1			
4	ENTREPRENEUR-SHIP	***A. ENTREPRENEURIAL AWARENESS*** Explores self-directed activities in the home, the school, the community			
		1			
		B. SMALL BUSINESS OPERATIONS Identifies basic small business operating procedures			
		1			
		C. FIELD EXPERIENCES Participates in various field experiences			
		1	2		
5	WORK SKILLS	***D. EMPLOYABILITY*** Defines "employability"	Recognizes the difference between employability and work skills		

I.O.P. PRACTICAL ARTS PROFILE, GRADE 8 (cont'd)

5	**WORK SKILLS (cont'd)**	1	***B. SAFETY*** Identifies safety practices used in the workplace	2 Demonstrates safe work practices
		1	***C. SANITATION*** Identifies sanitary practices used in the workplace	Demonstrates appropriate personal and public hygiene practices
		1	***D. TOOLS, EQUIPMENT SUPPLIES*** Identifies task related tools, equipment and supplies	2 Uses basic tools, equipment and supplies correctly
		1	***E. PROJECTS*** Follows project instructions	2 Completes projects to acceptable standards

PROGRAM OF STUDIES/PRESENTATION OF CONTENT

PRACTICAL ARTS (I.O.P. GRADE 8)

CAREER AWARENESS

CONCEPTS:

- Develops an understanding of relationships between the cluster of occupational courses offered in local high schools and career opportunities in the community.
- Recognizes the difference between a job and a career.
- Develops an understanding of how continuing education activities relate to lifelong learning.
- Recognizes that the search for employment is a problem-solving process, not a single activity.
- Recognizes that advances in technology can change career and employment patterns.

SKILLS:

The skills relating to CAREER AWARENESS are outlined in the learning objectives in column one.

ATTITUDES:

- Appreciates the value of acquiring concepts, skills and attitudes appropriate to entry level employment in a broad range of occupations.
- Values the necessity of learning throughout life.
- Recognizes the value of an organized approach to career awareness and the job search process.
- Develops an attitude of curiosity and openness to new ideas and opportunities, being critical and constructive in the identification and selection of potential career paths.

COURSE: PRACTICAL ARTS (I.O.P. Grade 8)
CONCEPT: CAREER AWARENESS (1)

LEARNING OBJECTIVES	Related Life Skills
A. OCCUPATIONAL CLUSTERS	
A.1 Identifies scope of occupational clusters in local high schools: • agribusiness • business and office operations • construction and fabrication • creative arts • natural resources • personal and public services • tourism and hospitality • transportation.	Identifies high schools in the community. Relates the concept of a cluster to: • hobbies and interests • possessions and collections • tools and equipment • food groups. Relates occupational clusters available in local high schools to jobs in the community. Appreciates that the availability of occupational clusters and courses may change to meet the needs of students seeking to enter a changing job market.
B. RELATED COURSES	
B.1 Identifies range of related courses available in local high schools: • agricultural mechanics • agricultural production • horticulture • business services • office services • building services • office services • crafts and arts • technical arts • natural resources • child and health care services • esthetology • fashion and fabric services • hair care • commercial food preparation • food services • maintenance and hospitality • automotive services • service station services • warehouse services.	Sees the relationship between the occupational clusters and the courses offered in local high schools. Recognizes that career exploration is part of the career planning process. Begins to relate personal interests to possible high school course selection.

Related Applications Across the Curriculum

General

Career awareness is addressed within each practical arts and occupational course. Commencing in Grades 8 and 9, students develop an awareness of potential career fields. In subsequent years, this awareness is further developed through a process of career exploration in Grade 10, career orientation in Grade 11, and preparation for entry into an occupation in Grade 12.

Mathematics

Reads charts and graphs of statistics presented in clusters. Understands employment statistics presented in picture or graph form.

Science

Visits local business and industry for first-hand observation of how scientific concepts and principles are used in a variety of occupational areas. These investigations will relate to:

- Working with Solutions
- Using Energy and Machines
- Growing Plants.

Social Studies

Begins to appreciate the variety of occupations from which to select potential careers.

Suggested Strategies/Activities

Have students:

- use the dictionary to define the term "cluster"
- list 20 of their favourite possessions and then group them into clusters; e.g.,

Brainstorm:
"What are the advantages of grouping or clustering similar things?"
"What are some of the occupations that are related to each of the eight occupational clusters?"
"Which of the occupations noted are presently available in the community?"
Have students identify and list families of basic concepts, skills and attitudes that are required for entry level employment in each of the eight occupational clusters.
(See *Teacher Resource Manual*: "Career Awareness".)

Community Partnerships

Encourage Grade 8 students to communicate with students from local high schools. Have students:

- visit local high schools to identify occupational clusters presently available
- invite a school counsellor, teachers and students from local high schools to speak to the class about programs and courses presently available
- construct an interview sheet and use it to interview a teacher, counsellor or students from a local high school.

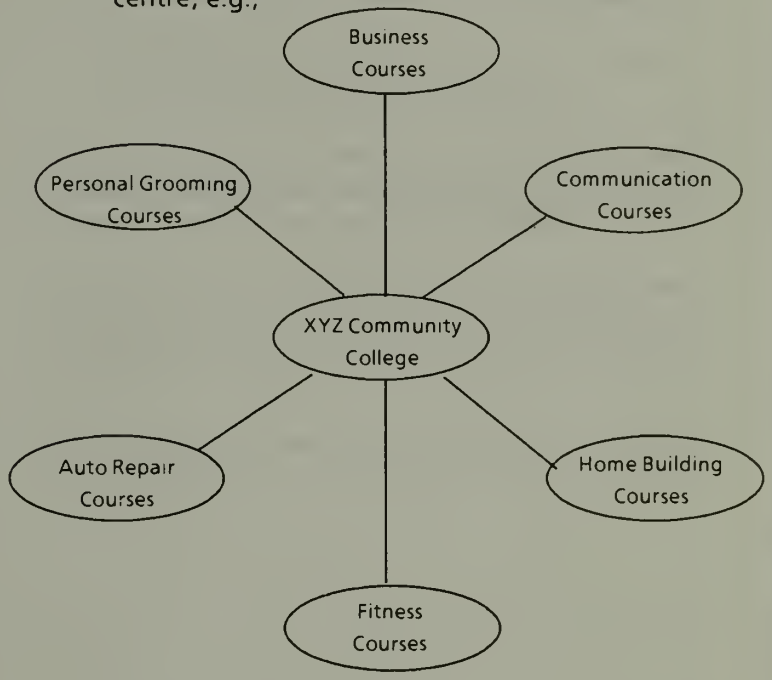
COURSE: PRACTICAL ARTS (I.O.P. Grade 8)
CONCEPT: CAREER AWARENESS (1)

LEARNING OBJECTIVES	Related Life Skills
C. JOBS AND CAREERS	
C.1 Recognizes the difference between a job and a career.	Participates in career planning activities: • discusses future job/career plans with parents, peers, teachers and others • explores a variety of possible occupations by participating in all practical arts activities • attends career fairs and other occupational information events.
C.2 Becomes aware of job and career potential in each occupational cluster.	Reads: • classified job and career advertisements • bulletin and notice boards in shops, malls and community buildings.

Related Applications Across the Curriculum	Suggested Strategies/Activities
	Have students define the concepts of "job" and "career" and have them discuss the differences between the two: • job – specific, usually lacks vertical and lateral movement • career – general, usually includes vertical and lateral movement. Use the local newspaper and have students identify six jobs and six career advertisements.
Mathematics Reads charts projecting future employment trends.	Have each student identify two jobs and two careers that are of interest, investigate each and answer the following questions: Job 1. Will this job help me acquire the skills for a better job? 2. What is the maximum amount of pay for this type of job within the community? 3. How much training is necessary to do the job successfully? 4. If this job is no longer appealing, what other job could I move to? Career 1. What are the main jobs within this career field? 2. What training is necessary to prepare me for this career? 3. Outline one or two lateral movements and one or two vertical movements within this career field; e.g., lateral movement for a food service worker: • just work as a bus person • just work as a dishwasher vertical movement for a food service worker: • a move from bus person → waiter/ waitress → Captain → Maitre d'hotel. Community Partnerships Invite guest speakers to outline present and future job and career opportunities in the community. (See *Teacher Resource Manual*: "Career Awareness".)

COURSE: PRACTICAL ARTS (I.O.P. Grade 8)
CONCEPT: CAREER AWARENESS (1)

LEARNING OBJECTIVES	Related Life Skills
D. LIFELONG LEARNING	
D.1 Defines and describes "lifelong learning".	Takes an active role in upgrading knowledge and skills related to hobbies and other areas of interest and activity: • reads sports magazines • builds models • uses resource centres; e.g., libraries, museums • enrols in evening and weekend courses; e.g., sports camps, music lessons, dance classes • participates in scouts and guides programs • joins a volunteer group; e.g., St. John Ambulance.
D.2 Associates continuing education opportunities with occupational clusters.	Recognizes that changes in technology will have an ongoing impact on job and career opportunities. Identifies centres for continuing education in the community.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Science Recognizes how developments in science and technology influence and change: • occupational opportunities available in the local community • the nature of the skills required in specific occupational clusters (e.g., agribusiness, construction and fabrication, natural resources, and transportation).	The need for lifelong learning may be a difficult concept for a Grade 8 I.O.P. student to accept. Their needs and wants are more closely associated with the short term rather than the longer term. To sensitize them to the concept and to the need for lifelong learning, have students work in groups and: • identify centres that offer continuing education in the community • obtain copies of programs offered by each centre • map the types of courses provided by each centre; e.g.,  • discuss the reasons why an increasing number of people of all ages are taking full- and part-time continuing education courses.

COURSE: PRACTICAL ARTS (I.O.P. Grade 8)
CONCEPT: CAREER AWARENESS (1)

LEARNING OBJECTIVES	Related Life Skills
D.2 Associates continuing education opportunities with occupational clusters (cont'd).	

Related Applications Across the Curriculum	Suggested Strategies/Activities

Community Partnerships

Invite career counsellors from continuing education centres to discuss the need for lifelong learning and continuing education.

Working in pairs, have students select and interview two employers in the community and record answers to the following questions:

- "Will your business or industry change much over the next five years? Ten years?"
- "What should workers do to prepare themselves for changes in the business or industry?"
- "What should students do to prepare themselves for a changing workplace?"

Have each student select two occupations, and arrange a one-session job shadowing activity with a worker in each of the occupations selected.

Have students report back to the class their experiences and how they think the job might change by the time they leave school at the end of Grade 12.

(See *Teacher Resource Manual:* "Career Awareness".)

COURSE: PRACTICAL ARTS (I.O.P. Grade 8)
CONCEPT: CAREER AWARENESS (1)

LEARNING OBJECTIVES	Related Life Skills
E. JOB SEARCH	
E.1 Recognizes job search as a process.	Consults with parents, teachers, counsellors, peers and siblings.
E.2 Identifies the basic parts of the job search process: • thinks about job/career possibilities • identifies interests • identifies abilities • explores career options • makes career decisions • formulates plan of action for job search • applies for a job • accepts a job • retains a job.	Observes job search strategies used by parents, peers and siblings. Reads articles related to the job search process in newspapers and magazines. Examines alternative and complementary strategies in the job search process. Organizes information in clusters of related data.

Related Applications Across the Curriculum

General

Job search skills include the ability to plan and make decisions. Both of these abilities are addressed throughout the program.

Language Arts

Interviews workers within the community to develop background information for future job selection.

Mathematics

Collects and records data in table and chart form.

Science

Develops a strategy for scientific inquiry and problem solving. This strategy fosters sequenced thinking, and directly relates to the tasks undertaken in the job search process:

- Understanding the Problem – gaining access to information and ideas
- Developing and Carrying Out a Plan – working with information and ideas
- Reviewing and Applying Results – drawing conclusions and communicating results.

Social Studies

Shares information about:

- careers of family members and/or friends
- past and present personal employment
- process used to obtain employment.

Suggested Strategies/Activities

Some of the students may have part-time jobs. Have those who hold or have held a part-time job tell the class how they obtained their jobs.

Record the major points of each strategy on the chalkboard or overhead projector and, when presentations are completed, have students:

- discuss similarities and differences between the job search and job attainment processes.

Have students read The Easy-To-Read Career Planning Guide (pp. 1-6) and discuss the first few stages of the job search process:

1. identifying personal interests
2. identifying personal ability
3. matching interests and abilities
4. deciding what is wanted for work.

(See *Teacher Resource Manual*: "All About Business".)

Use the RAP strategy while using the career planning guide to help students remember more of what they read.
(See *Teacher Resource Manual*: "Suggested Teaching Strategies".)

The initial four stages and subsequent stages outlined in the career planning guide should be taught, reviewed and reinforced throughout each year of the Integrated Occupational Program.

Community Partnerships

Establish community partnerships for both in-school and field experiences to provide students with "real world" information concerning the job search process. Partnerships may include:

- school guidance counsellor
- business/industry representative
- personnel manager
- Career Development and Employment counsellor
- workers representing various occupational clusters.

Strategies may include:

- in-class presentations and discussions
- field trips
- job shadowings
- visits to or by school graduates and teachers presently involved in one or more practical arts or occupational courses at a local high school.

PRACTICAL ARTS (I.O.P. GRADE 8)

HUMAN RELATIONS

CONCEPTS:

- Understands that each person has strengths and weaknesses.
- Recognizes that personal strengths and weaknesses are relative to context, situation, goals and objectives.
- Recognizes that self-esteem is demonstrated through:
  - body posture and appearance
  - expression and emotion
  - initiative and responsibility
  - personal satisfaction and pride in achievement.
- Develops respect for individuality of others.
- Understands the respective roles of employers and employees.
- Understands that communication – verbal, non-verbal, and visual/symbolic – involves interaction and the creation and sharing of meanings.

SKILLS:

The skills related to HUMAN RELATIONS are outlined in the learning objectives in column one.

ATTITUDES:

- Develops an improved self-concept.
- Appreciates the value of good interpersonal relationships in the home, the school and the workplace.
- Displays insightful, sensitive and considerate behaviour to others.
- Appreciates the value of honesty, truth and openness to the attainment of effective communications and interpersonal relationships.

COURSE: PRACTICAL ARTS (I.O.P. Grade 8)
CONCEPT: HUMAN RELATIONS (2)

LEARNING OBJECTIVES	Related Life Skills
A. PERSONAL DEVELOPMENT	
A.1 Identifies personal strengths and limitations: • social • emotional • physical • intellectual.	Is able to make friends and retain friendships. Is able to adjust to moderate stress: • retains one's temper • accepts criticism. Participates in physical activities: • individual and team sports; e.g., – snowshoeing – skiing – swimming • farming • craft work • labouring. Demonstrates ability to cope with disabilities. Uses discrimination when selecting material to read, view or listen to: • books and magazines • television and videotapes • radio, records, discs and audiotapes.
A.2 Recognizes the meaning and importance of "motivation", "initiative" and "responsibility".	Provides volunteer services in a variety of home, school, community and workplace contexts: • baby-sits • tends garden, when requested, for the elderly, disabled or sick • cares for pets • cleans own room without being asked.
A.3 Identifies the implications of flexible, innovative and creative behaviours.	Creates a new game. Observes proper road safety practices when crossing the road/riding a bike. Shows leadership in group situations and tasks.

Related Applications Across the Curriculum	Suggested Strategies/Activities

General

Liaise with language arts and social studies teachers to develop an integrated approach to teaching and reinforcing human relations skills. Cross-curricula examples of persons who have overcome disabilities make excellent role models for discussion; e.g.:

- Terry Fox
- Helen Keller
- Rick Hansen

Language Arts

Completes a "self-discovery" mind mapping activity noting social, emotional, physical, and intellectual characteristics.

Mathematics

Uses a variety of strategies to solve problems.

Science

Students are expected to assume responsibility for their personal conduct. Innovative and creative behaviours are developed through activities that encourage students to:

- ask questions
- share observations and ideas
- seek answers.

Creative thinking is also encouraged throughout the scientific inquiry and problem-solving process (e.g., "Using Energy and Machines" – designs and constructs simple mechanical technologies that will assist in performing a given function).

Social Studies

Recognizes personal role as a family member.

Have students discuss:

- What are strengths?
- What are limitations?

Point out that neither strengths nor weaknesses should be taken for granted. They are not absolute. Rather, they are relative to others of similar age, in similar circumstances and contexts, and relative to each person's ability to fulfil a task, accomplish a goal, etc.

Have students:

- use a dictionary to define the terms
  - motivation
  - initiative
  - responsibility
- present written/verbal examples of personal behaviours that were motivated, showed initiative, demonstrated responsibility.

Have each student describe:

- a personal adventure
- a prized possession
- a hobby
- a memorable holiday
- a favourite sport.

Have students show things they have made or helped create:

- models
- craft work and art work
- photographs.

Have students identify people they know who have overcome personal problems and/or disabilities.

Note that in many of the role models identified, disabilities were overcome through compensatory systems.

Provide examples of how knowledge, skills and attitudes developed in the practical arts will:

- increase strengths
- minimize weaknesses
- be transferable to activities in
  - other courses
  - the home
  - the community
  - a variety of workplaces.

(See *Teacher Resource Manual*: "Suggested Teaching Strategies".)

LEARNING OBJECTIVES	Related Life Skills
A.4 Recognizes the meaning and importance of "self-esteem": • roles • sexuality • values • expectations • achievements – academic – social – emotional – physical.	Accepts both praise and criticism from parents, peers, teachers and others. Always tries to do the best job possible.
A.5 Recognizes the value of self-praise and criticism.	Is able to say and mean: "I like myself" "I know I can do better" "I will do better next time".

Related Applications Across the Curriculum	Suggested Strategies/Activities
Language Arts Begins to monitor positive and negative personal behaviour and to adjust behaviour according to the social situation.	Use an icebreaker activity to help students get to know one another; e.g., have students work in pairs, exchange information with one another, and share the information with the rest of the class: • name • previous school attended • hobbies • interests • favourite television show, radio channel, record/tape/disc., etc. Enlist students' help to solicit and introduce a guest speaker. Challenge students to say three positive things to classmates each day and to record in a journal three positive comments they receive about their own activities each day. Encourage these attitudes on a continual basis in varied situations by use of reminders such as developing and using a "mnemonic" for a positive attitude; e.g., "Great Work!" G = greet others in a positive way R = respond positively to comments E = enjoy sharing ideas A = accept and give compliments T = togetherness -- the way to get things done. Use "Positive Self-Talk" strategy to foster an enhanced self-concept. (See *Teacher Resource Manual*: "Career Awareness".)
Social Studies Develops an awareness of the influence of family heritage on feelings of self-worth.	

LEARNING OBJECTIVES	Related Life Skills
A.6 Recognizes the importance of personal appearance: • social image • self-image.	Practises personal hygiene: • bathes regularly • exercises • maintains a balanced diet • has regular medical/dental check-ups. Wears clothes appropriate to the activity or event. Puts on proper protective wear when performing specific tasks: • oven mitts • goggles • hard hats • aprons (leather, metal, fireproof, etc.) • safety boots/shoes • masks • uniforms.

Related Applications Across the Curriculum	Suggested Strategies/Activities
	Identify two jobs from each of the eight occupational clusters and discuss: • "What would be the appropriate dress for each job?" • "What would be inappropriate dress for each job?" Use posters, magazines, newspaper articles, etc., to reinforce desirable and appropriate dress for different job and task situations. Use praise and other reinforcements regularly when a student comes appropriately dressed and prepared for a class. Demonstrate proper use and evaluate students' use of job/task specific protective and safety clothing. Students should not be allowed to perform a task unless appropriately clothed, protected and aware of the need for and use of safety clothing. Community Partnerships Invite parents, other teachers and representatives of business, industry and community agencies to discuss the significance of human relations skills in the home, the school, the workplace and in the community. Use partners who will provide positive role models and help to reinforce the concepts, skills and attitudes that you teach to and model for students. Encourage guests to relate case studies and situations where personal development skills and skills training have improved or changed people's performance: • concepts • skills • attitudes • interpersonal relationships.

LEARNING OBJECTIVES	Related Life Skills
B. INTERPERSONAL RELATIONSHIPS	
B.1 Shows respect for others. B.2 Displays courtesy.	Addresses others in a polite manner: • says "good morning", "good afternoon", etc. • uses "please" and "thank you" • respects the rights and feelings of others • does not ridicule mistakes made by others • offers suggestions and encouragement • displays self-control over own emotions.
B.3 Describes the respective roles of employers and employees: • recognizes hierarchy of authority.	Follows reasonable instructions given by parents, teachers and others. Knows the limits in which he or she can operate in different situations. Is aware of rights and responsibilities in a variety of contexts; e.g.: • son or daughter • student • part-time employee • team member.
B.4 Explains the concept of "assertive behaviour".	Is able to speak up and defend issues he or she believes in. Uses acceptable degrees of assertiveness when participating in team or group activities.

Related Applications Across the Curriculum	Suggested Strategies/Activities

General

Appreciation and respect for others, including the authority of certain others, is a concept, attitude and group of skills that apply in all subject areas and in all home, school, work and community situations.

Teachers are encouraged to integrate their planning and establish criteria for acceptable and non-acceptable student behaviour which will be applied in all I.O.P. classrooms.

Language Arts

Forms and expresses personal opinions.

Science

Performs investigations and completes assignments, both independently and in cooperation with others. Strategies for resolving interpersonal conflict are developed and used in group situations when conflict arises.

Social Studies

Examines the family patterns of decision making.

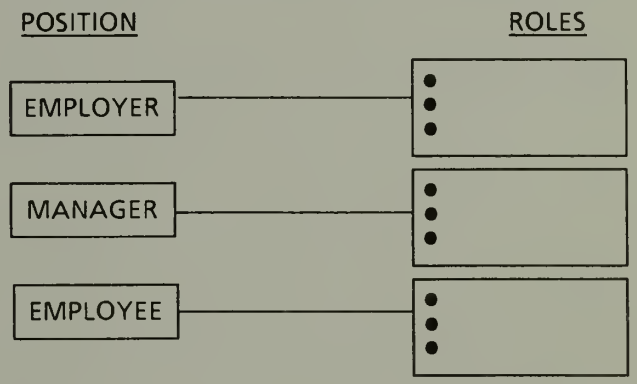
Have students:

- discuss the saying "Treat others as you would have others treat you"
- role play course/job related scenes of human interaction; e.g.,
  - telling an employer why you're late for work
  - explaining to a parent/guardian the reason why you did not do a chore
  - explaining to a teacher why an assignment is incomplete
  - offering help to co-worker.

Discuss how and what types of interaction took place, and how the interactions reflect respectful or disrespectful behaviour.

(Appropriate films/videos may also be used for analysis and discussion.)

Have students map a job situation and list the respective roles of employers and employees; e.g.,



Discuss the alternative lines of communication between the three positions.

Have students use the dictionary to define "assertiveness" and discuss:

- "When is it appropriate to be assertive
  - at home?"
  - in school?"
  - in part-time employment?"
- "What are the consequences of being too assertive?"

LEARNING OBJECTIVES	Related Life Skills
B.4 Explains the concept of "assertive behaviour" (cont'd).	

Related Applications Across the Curriculum	Suggested Strategies/Activities
	Community Partnerships Facilitate opportunities for students to observe and discuss interpersonal relationships in a work environment: • invite parents, teachers, employers and employees to discuss the importance of interpersonal skills in the workplace • use field experience strategies; e.g., job shadowing and field trips to offices, factories, farms, mines, shops, department stores, to provide "real life" observations of interpersonal relationships in business and industry – boutiques – department stores – farms – factories – mines – offices – oil field.

LEARNING OBJECTIVES	Related Life Skills
C. COMMUNICATIONS	Builds a model using a kit.
C.1 Follows simple instructions and directions: • written • verbal • symbol and colour coded.	Produces a product using a recipe. Follows operating instructions on tools, appliances, disc/tape/record players.
C.2 Demonstrates an understanding of basic occupational terminology.	Plants seeds according to instructions on container. Performs regular household and other tasks on schedule. Recognizes hazardous substance symbols: • poison • explosive • keep out.

Related Applications Across the Curriculum	Suggested Strategies/Activities

Language Arts

Follows instructions for completing written and oral assignments.

Uses vocabulary development strategies to learn technical terms.

Mathematics

Reads and interprets information presented in a variety of forms.

Science

Uses communication skills in reading and viewing science material and in recording, summarizing and communicating ideas in science. Specific strategies that are used to support students in their use of language include:

- "RAP" Strategy (paraphrasing)
- "SQ3R" Strategy (chapter attack)
- "WIS" Strategy (word identification)
- Vocabulary Sorting
- Idea Diagrams/Semantic Webbing/ Concept Circles.

Develops an understanding of basic technical vocabulary related to:

- ecology and the environment
- mixtures and solutions
- work, energy, and machines
- propagation of plants.

Social Studies

Interprets map legends.

Provide students with lists of key terms related to equipment, tools, supplies, processes and procedures prior to dealing with each segment of the course. Encourage them to use the proper terminology in all written and verbal communications.

Activity and instruction sheets that are specific to each segment of the course should be laid out in a clear and concise manner. Special attention should be paid to:

- students' reading levels
- read-to-know technical terms
- clear and concise diagrams.

Some students may have difficulty reading written instructions but they are usually able to follow verbal instructions. In some instances the ability to follow verbal instructions has enabled students to circumvent the need to read or write instructions. With this in mind, teachers may assist students with the development of their listening and comprehension along with their skills by using the following strategy:

Starting with two or three instructions and gradually increasing the complexity of the defined tasks, the teacher:

1. Advises the student that a series of instructions will be given.
2. Provides the instructions from start to finish without interruption.
3. Begins again with instruction number one, states it clearly and asks if the student understands it. If so, he goes on to instruction number two, and so on. It is not sufficient to accept the student's appraisal of understanding. The student is asked to paraphrase the instruction and is asked to explain any aspect that seems unclear from the instructor's point of view.
4. Validate all steps through receipt of student feedback.
5. Have students write the instructions in their own words.
6. Check the written work to assess learning achievement.
7. Have students create a flow chart to show the sequence of the instructions (if appropriate).

Involve each student in a practical activity that involves teamwork while following a series of instructions. Discuss how cooperation of each

LEARNING OBJECTIVES	Related Life Skills
C.3 Uses appropriate conversational skills: • speaks clearly • speaks slowly • uses appropriate greetings.	Is able to carry on a conversation with parents, peers, teachers and others. Requests advice, information, guidance.

Related Applications Across the Curriculum	Suggested Strategies/Activities

member of the team is necessary for the successful completion of the activity.

Additional strategies that may be used to improve students' ability to memorize and follow instructions and to use proper terminology include:

- RAP paraphrasing strategy
- LIGHT strategy
- first letter mnemonic strategy.

(See *Teacher Resource Manual*: "Suggested Teaching Strategies".)

It is important that each strategy be explicitly taught and that student be given the opportunity to practise and use each strategy in a meaningful context.

In many occupations and life situations, symbols are used to denote appropriate handling practices and procedures:

- hazardous warning labels
- traffic signs
- laundry labels.

Ensure that students are able to recognize symbols used on various equipment, tools and materials in the classroom/lab or related work site and that they know how to handle items bearing warning symbols.

Have students construct and display signs and symbols appropriate to the lab.

Language Arts

Uses appropriate conversational skills when interviewing community members and during classroom discussions.

The teacher, in using effective teaching strategies, models various types of communication. Have students observe and record your communication behaviours and the communication behaviours of classmates. A checklist can be used to assess the effectiveness of both the sender's and the receiver's behaviours; e.g.,

COMMUNICATION SKILL	EVALUATION		
	Excellent	Good	Poor
Verbal Speech			
Questioning			
Answering			
Non-Verbal Eye Contact			
Posture			
Readiness to listen			

LEARNING OBJECTIVES	Related Life Skills
C.4 Uses appropriate non-verbal communication skills: • makes and maintains eye contact • smiles • understands and accepts body language messages • displays positive body language; e.g., readiness and willingness to listen and share meanings.	Is able to use socially acceptable verbal and non-verbal communication techniques.
C.5 Listens effectively: • is able to repeat information received verbally • is able to paraphrase information received verbally • is able to respond to aural information.	Is able to find a store/home address, etc., having asked someone for directions. Is able to perform a variety of tasks by following verbal instructions: • takes messages • performs according to a coach's directions • follows instructions of parent when baby-sitting • responds to fire alarm • awakes to alarm clock/radio.
C.6 Writes legibly.	Takes a telephone message. Writes a postcard or letter. Takes notes in class. Complete application forms for: • Social Insurance Number • library card.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Language Arts	
Develops an awareness of facial expressions, body gestures, and voice tones during conversations.	Have student practise effective communication techniques by role playing and simulating real life, occupation-related dialogues. Teach students to use a variety of strategies to help them listen more attentively and to comprehend the information they receive. Have them: • use visual clues; e.g., observe what others are doing • paraphrase information received; e.g., use RAP strategy • use CARING strategy (See *Teacher Resource Manual*: "Suggested Teaching Strategies".) • take notes as information is received and verify that notes are correct by repeating the information back to the sender.
Listens to class members and retells event or story. Uses verbal, non-verbal, and listening skills to communicate opinion during small and large group discussions.	Consult with teachers of I.O.P. language arts courses. The Language Arts 8-9 *Teacher Resource Manual* contains strategies for integrating the strands of language into other curricula areas. These strands are: • listening • speaking • reading • writing • viewing • metacognition. For example, an activity entitled "Practise Your Listening Skills" is included in the metacognition strand. This and similar activity sheets and exercises may be developed collaboratively by teachers of I.O.P. courses. (See *Teacher Resource Manual*: "Suggested Teaching Strategies".)
Uses correct punctuation and parts of speech in verbal and written communications.	
	Community Partnerships Most occupations require workers who have the ability to communicate effectively using each of the strands of language previously noted. Invite representatives from a variety of occupational areas to discuss the importance of communication skills in their respective occupations: • requirements of entry level employees • requirements for advancement • requirements for continuing education in the area of communication skill development.

PRACTICAL ARTS (I.O.P. GRADE 8)

ORGANIZATION AND PLANNING

CONCEPTS:

- Understands that positive work habits are those that promote the attainment of positive outcomes; i.e., good marks, advancement and personal growth.
- Recognizes the need for the ongoing development of time and task management skills.
- Understands the importance of and displays organization and planning skills in decision making, problem solving and project work.
- Develops an understanding of strategies for decision making and problem solving that involve the application of knowledge, skill and experience.
- Understands the need for computational competence in daily life activities that relate to personal management and responsibilities in the workplace.
- Recognizes the importance of maintaining standards of safety, performance, and production in the home, the school and in the workplace.

SKILLS:

The skills related to ORGANIZATION AND PLANNING are outlined in the learning objectives in column one.

ATTITUDES:

- Appreciates the value of an organized approach to problem solving.
- Develops a sense of responsibility toward time and task management and safety practices.
- Appreciates the usefulness of computational competence and problem-solving skills in all occupations.
- Values people, processes and objects that meet a positive set of standards.

COURSE: PRACTICAL ARTS (I.O.P. Grade 8)
CONCEPT: ORGANIZATION AND PLANNING (3)

LEARNING OBJECTIVES	Related Life Skills
A. WORK HABITS	
A.1 Identifies the importance of time management: • uses class time productively • arrives on time • uses out-of-school time productively • understands concept of tardiness.	Uses an alarm clock or clock radio as a wake-up aid. Pays bills on time. Collects weekly/monthly payments from a paper route. Knows times of school bus and local bus schedules. Organizes time for work, sport, study, etc. Recognizes that tardy behaviour in the workplace may result in the tardy worker being fired.
A.2 Identifies the importance of task management.	
A.3 Attends regularly.	

Related Applications Across the Curriculum	Suggested Strategies/Activities
Language Arts Uses strategies and organizational patterns to manage time and tasks. Mathematics Uses a calendar and recognizes the relationships between days, weeks, months.	Have students keep a log book and: • record their daily activities for one week • categorize the weeks activities into time spent on school work, sports, watching television, sleeping, working, household chores, etc. • compare and discuss with classmates time spent on each category of activity. (See *Teacher Resource Manual*: "Organization and Planning".) **Discuss**: "What do people think about someone who is always late?" "How would you feel if a bicycle repair shop promised to have your bike repaired by 4 p.m. Friday and when you go to collect it you're told that it will not be ready until the following Monday?" Stress that failure to complete a project on time causes inconvenience to others. **Brainstorm**: "What effect can poor time and task management have on a business operation? A sports team? Reinforce instances of good time and task management. Encourage students to recognize that time and task management skills are important skills in every occupation. Stress that sleeping-in is not an acceptable excuse for lateness or absence in school or in the workplace. The usual manner of monitoring student progress in the practical arts is to observe and note performance over time. With I.O.P. students, it is important that each student be evaluated on the basis of individual progress over time. The criteria for performance evaluation should include cognitive, affective as well as psychomotor skill development. Teachers should consider using an individual educational plan (IEP) among the evaluation sheets in order to record accurately the changes in performance exhibited by each student over time.

LEARNING OBJECTIVES	Related Life Skills
A.4 Identifies need for organizational skills in the workplace.	Prepares to go on a holiday and identifies and collects items necessary for different types of holidays; e.g.: • camping • cycling • skiing • overseas. Organizes time for different activities; e.g.: • work • friends • study • television.

Related Applications Across the Curriculum	Suggested Strategies/Activities
	During unannounced periods, assign one student to observe one or two others at work. Give the "student efficiency expert" a stopwatch and have the student record time spent on-task and time spent elsewhere. A simple report of findings (in terms of percentage of time spent on-task as opposed to time spent on distractions) will surprise most people involved. Have students brainstorm and select appropriate projects. Giving them "ownership" of the project will improve their level of interest and motivation for the project.
Language Arts Organizes notebooks, examinations, handouts, and assignments to increase efficiency and neatness.	Have students participate in organizing and planning: • in-class projects • community partnership activities • bottle drive • bake sale • fashion show.
Mathematics Collects and records data using tally sheets and frequency tables. Uses tables and charts to group/sort numerical data and information according to specified criteria.	
Social Studies Uses an appropriate strategy to display information about heritage.	

LEARNING OBJECTIVES	Related Life Skills
B. DECISION MAKING	
B.1 Identifies a problem.	Makes choices between alternatives: • which television channel to watch • which party to go to on Saturday • whether to study for a test or go to the movies • what to do with a wallet found on the street.
B.2 Identifies the stages in a simple problem-solving process.	The decision-making process involves the acceptance of responsibility for personal choices. In situations where the decision-making process is an individual one, full responsibility must be accepted for the outcome of those decisions. In situations where decision making is a joint process, the responsibility may be shared, albeit not equally.

Related Applications Across the Curriculum

Language Arts

Develops an awareness of basic problem-solving strategies and applies these to problems that may arise in the classroom. Identifies the main idea and distinguishes relevant/irrelevant detail.

Mathematics

Problem solving is an integral component of the mathematics course, therefore, these objectives are covered extensively throughout Mathematics 8.

Science

Uses a three-step framework for scientific inquiry, problem solving and decision making. Students gain experience in using appropriate strategies and process skills in order to:

- Understand the Problem – gain access to information and ideas
- Develop and Carry Out a Plan – work with information and ideas
- Review and Apply Results – draw conclusions and communicate results.

Social Studies

Views or reads a news item and identifies the main idea or problem.

Suggested Strategies/Activities

The practical arts should provide students the opportunity to develop concepts, skills and attitudes that will assist them to think critically, make decisions and solve problems.

Have students brainstorm:
"What is a problem?"

The P.O.B. mnemonic provides one way to look at a problem situation:
P = Problem O = Objective B = Barrier
A problem (P) exists when a person is unable to do what he or she wants to do (O) because one or more barriers (B) are in the way.

$P = O + B$

The action taken to remove the barrier(s) is called "problem solving".

$P - B = O$

Have students provide examples of:

- problems they have solved
- barriers they have encountered
- how they overcame the barriers.

Suggest that a major barrier for many people is fear. For example, the fear of failure is a barrier that may prevent a person from even trying. This type of barrier can result in a person saying:
"I won't even bother trying. . . I know I can't do it".

Conversely, students who learn decision-making skills develop the ability to say "I can".

The decision-making and problem-solving processes should be taught both as discrete units of instruction and in the context of task related activities:

- provide the students with examples in which the processes are utilized
- provide an overview of the decision-making and problem-solving sequences
- provide a clear representation to the students of each of the steps in the processes
- link effectively all the steps so that the processes become clear as input, action and output

LEARNING OBJECTIVES	Related Life Skills
	In life, one evaluates choices constantly by appraising the outcomes of those choices. Many times each day, the student will be required to consider the possible consequences of actions and decide accordingly. The student may find a wallet on the street and will need to decide whether to leave the wallet lying there, pick it up and keep the contents, or report its loss and seek the rightful owner. These decisions are made in accordance with the student's upbringing, moral values and ability to judge potential consequences of such decisions. Other choices a student may face include: • Makes choices between similar products. • Chooses between two possible employment positions. • Selects friends. • Responds to moral and ethical issues. • Chooses between several entertainment options.
B.3 Identifies the components of a task.	Plans what to do during a summer holiday.

Related Applications Across the Curriculum	Suggested Strategies/Activities
	• provide meaningful, high-interest, pertinent case situations for practising the processes • assign students the responsibility for implementing the decision-making process consciously, and reporting on the experience • instil in the students an appreciation that decision-making and problem-solving abilities are lifelong tools • encourage students to modify the model shown in the preamble to different situations • have students generate their own decision-making/problem-solving strategies for class discussion. The use of the decision-making, problem-solving model outlined in the preamble of this document will depend on the nature of the problem to be solved and on the person(s) involved. In some cases, only those strategies appropriate to the problem need be used. In all cases, however, students should recognize that decision making and problem solving involve a series of interrelated actions that lead to a solution.
Social Studies Uses organizational strategies to plan a field trip to a community business operation and becomes cognizant of the planning process.	Working individually or in small groups, have students select a project; e.g.: • making a cookie sheet • baking a cake • sewing a stuffed animal • organizing a fashion show or bake sale • designing and typing an advertising flyer. Have students identify the components of the task selected, using a problem-solving model. Identify the problem: • select a suitable task • gather information about the task. Develop and carry out the plan: • identify alternative ways of carrying out the plan • decide on the "plan of action" • draw a flow chart to show the sequence of parts in the plan. Review decisions and apply results: • evaluate the project outcome • could it have been improved? How?

LEARNING OBJECTIVES	Related Life Skills
C. COMPUTATIONS	Reads recipes, work sheets, gauges.
C.1 Reads numbers to four digits.	Takes inventory of personal possessions. Purchases goods and checks bill.
C.2 Uses four basic math functions: • addition • subtraction • multiplication • division.	Calculates distances. Records time taken to perform different tasks. Counts calories. Calculates game scores and sports statistics.
C.3 Rounds off decimals to two places.	Uses a cash register. Calculates totals for multiple purchases. Determines distance travelled (e.g., 50 km/hr for 4 hr). Calculates wages earned weekly and monthly given hourly rate.
C.4 Counts money to $100.00: • makes change from $20, $50 bills • checks cash float for appropriate denominations of coin and paper money.	Counts money when paying for a purchase. Checks money received in change.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Mathematics Each of the learning objectives outlined is addressed in Mathematics 8.	Computational skills should be taught in applied contexts. Many of the generic practical arts activities shown in the *Teacher Resource Manual* require students to demonstrate basic computational competencies: • using recipes • cutting materials to size • keeping records of costs and work performed • calculating keyboarding speeds. Involve students in: • ordering materials • keeping records of materials used • taking inventory • dividing up work assignments • estimating time and quantity of materials needed for a project • dividing and multiplying recipe ingredients. Encourage students to use mental arithmetic and calculators when doing computations. Students should be provided with intensive practice in handling and counting money and making change. Practice money may be used until students demonstrate acceptable levels of competency. Mastery levels of performance should be evident before expecting students to handle cash in a commercial operation such as a school store or selling tickets to a school dance.

COURSE: PRACTICAL ARTS (I.O.P. Grade 8)
CONCEPT: ORGANIZATION AND PLANNING (3)

LEARNING OBJECTIVES	Related Life Skills
C.5 Identifies basic units of measurement: • linear • volume • area • mass • angles.	Recognizes metric and imperial measurements used to describe: • body measurements • travel distances • materials needed for a project • recipe ingredients • speed of vehicles • angular relationships; i.e., right angles, 45°, 90° • a room or piece of fabric.
C.6 Identifies measurement tools: • rulers, tapes • measuring jugs/cups • squares • thermometers • gauges • weigh scales • templates.	Uses rulers and tapes for measuring length. Uses measuring jugs/cups when mixing a recipe. Checks the temperature of an oven or room. Uses various weights for body building exercises. Reads tire pressure gauges.
C.7 Identifies uses of charts and graphs.	Reads health related charts. Reads and records changes in temperature. Reads and records daily rain fall.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Mathematics Recognizes and measures: • length in mm, cm, m, km • weight in g, kg • volume in mL, L.	Metric units of measurement and metric measurement tools should be used whenever possible. However, it should be recognized that a combination of both metric and imperial measures and measurement tools may be used in the home and in various workplaces. Students should be able to compare only, not convert, units from the imperial system to the metric system. That is, students should be able to answer questions like: • are three metres of fabric greater than three yards of fabric? • will a 300 km trip require more gasoline than a 300 mile trip? • is my waist 30 inches or 30 cm?
Science Measurement skills are developed and reinforced in a variety of practical applications. Students use units/tools/ procedures of measure that relate to: • length • mass • capacity • time • temperature. Students read and interpret charts/tables/ graphs in order to gather information, and use these methods of data display to record and organize information gathered from other sources.	Have students: • use the proper measuring tools for each task that involves measurement • record measurements taken correctly • use appropriate terms and abbreviations to describe each measurement.
Mathematics Uses tables and charts to graph/sort numerical data and information according to specified criteria. Reads and interprets graphs.	Have students keep records and chart and graph the data: • attendance/tardiness • task completions • marks received for various projects Use the records to assist students to identify personal strengths and limitations.
Social Studies Gathers data about local weather patterns, distances between locations or areas of recreational sites using appropriate measurement tools and units.	

LEARNING OBJECTIVES	Related Life Skills
D. STANDARDS	
D.1 Identifies uses of standards in the workplace: • task management • tolerances • materials management • human resource management • safety.	Fills bicycle/car tires to correct pressure. Fills gas tank with appropriate type of gas (leaded, unleaded, diesel). Makes allowance last until next payday. Recognizes acceptable and non-acceptable behaviours at home, in school and at a part-time job. Knows how to become and remain a member of a team.
D.2 Identifies general safety standards.	Reacts appropriately to emergency situations: • fire alarm • injury • accidents. Keeps personal belongings in good condition. Keeps mechanical equipment in good working order. Wears protective clothing. Stores hazardous materials (gasoline, paint, oil) in proper storage area.

Related Applications Across the Curriculum

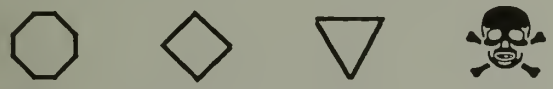
Language Arts

Realizes that individuals may differ in their opinions and applies this knowledge to social situations.

Uses organizational skills to plan an evacuation route from classes.

Science

Practises safe procedures for the handling and storage of potentially dangerous materials, and plans/performs experiments using appropriate laboratory procedure. Students learn to interpret hazardous product symbols used on familiar household products.



Danger | Warning Advertisement | Caution Attention | Poison

Potential dangers/appropriate precautions that relate to the use of a variety of mechanical technologies are also considered.

Social Studies

Identifies the safety/health related resources in the community (e.g., hospital, clinic, police station, R.C.M.P. detachment, fire hall).

Suggested Strategies/Activities

In the practical arts, students are provided with the opportunity to develop concepts, skills and attitudes appropriate to the use and care of expensive equipment, tools and supplies.

Early in each new area of the course, students should be made aware of the standards of performance, participation and safety that they will be expected to demonstrate.

To facilitate students' awareness of the standards required and their performance to these standards, the teacher should provide each student with a written statement of standards that must be maintained in each of the practical arts areas.

Have students:

- brainstorm to identify standards they consider necessary in a particular area of the practical arts
- categorize the standards identified into clusters
  - safety
  - task management
  - human resource management.

(The teacher may need to supplement the lists to ensure the inclusion of essential standards.)

Compile a checklist of these standards, post them in visible locations and use them as part of each student's evaluation.

Students should be given increasing amounts of responsibility to ensure that various standards are maintained:

- maintaining own work area
- maintaining inventory
- maintaining tools and equipment
- minor repairing of tools and equipment
- managing lab/classroom.

LEARNING OBJECTIVES	Related Life Skills
D.3 Identifies importance of personal and public hygiene practices: • personal hygiene practices – bathing regularly – caring for hair, skin and nails – eating a balanced diet – exercising regularly – wearing clean clothes – having regular medical/dental checkups • public hygiene practices – maintaining a sanitary working environment – maintaining a clean and tidy work area – controlling infection – disposing of different wastes in appropriate ways.	Projects a well-groomed appearance. Uses an antiperspirant or deodorant. Launders clothes regularly. Has regular medical/dental check-ups. Participates in exercise activities; e.g., dancing, aerobics, team or individual sports. Washes hands before handling food and after using a toilet. Wears appropriate clothing for the job; e.g., whites in a commercial food preparation kitchen.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Social Studies Realizes the importance of personal hygiene to interpersonal relationships in classroom groups, at work, and in community partnerships.	Personal and public hygiene practices represent standards required in all areas of the practical arts. In some areas such as a foods lab or a personal grooming lab, personal and public hygiene practices are standards that must be maintained in order to maintain the health and safety of all those using the labs. Where special personal and public hygiene practices are required (e.g., tuberculosis tests for food industry workers), teachers should ensure that each student is aware of and ready and willing to abide by the special personal and public hygiene practices. Community Partnerships Organizing and planning abilities are essential skills for workers in every occupation. To reinforce the importance of these skills, invite representatives from a wide variety of businesses and industries to discuss the skills that are most important for entry level workers to possess in their operations. Use field experience activities similarly, and have students make note of the standard procedures, operations, work dress, and behaviours in each place visited.

PRACTICAL ARTS (I.O.P. GRADE 8)

ENTREPRENEURSHIP

CONCEPTS:

- Develops an understanding that entrepreneurship is a career option.
- Recognizes that real life work experiences are best learned through community partnership activities.
- Develops an understanding of basic small business operating procedures.

SKILLS:

The skills related to ENTREPRENEURSHIP are outlined in the learning objectives in column one.

ATTITUDES:

- Develops an appreciation of the role of small businesses in the community.
- Recognizes the value of an organized and planned approach when operating a small business.
- Develops an attitude of curiosity and openness to new ideas that may be operationalized in the form of a small business.

COURSE: PRACTICAL ARTS (I.O.P. Grade 8)
CONCEPT: ENTREPRENEURSHIP (4)

LEARNING OBJECTIVES	Related Life Skills
A. ENTREPRENEURIAL AWARENESS	
A.1 Explores self-directed activities at home, in school and in the community.	Shows enterprise: • keeps own room clean • performs volunteer tasks for neighbours and senior citizens • has a paper/flyer route • is active in guide/scout or other youth group • operates a school concession • recycles bottles and waste paper.
B. SMALL BUSINESS OPERATIONS	
B.1 Identifies basic small business operating procedures.	Buys and sells at a profit: • grows a garden and sells the produce • buys or makes items for sale at a school concession • repairs an old bike and sells it.
C. FIELD EXPERIENCES	
C.1 Participates in various field experiences.	Enjoys exploring new things and new places: • visits museums • joins the local library • goes camping, cycling. Works at a variety of part-time paid or volunteer jobs.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Language Arts Studies the meaning and the origin of the term "entrepreneurship" and investigates entrepreneurship through reading.	Every student has the potential to be enterprising and many I.O.P. students may have demonstrated abilities that exemplify initiative, creative thought and enterprise. Have students: • discuss what it means to be enterprising • describe examples of personal enterprising behaviour. Reinforce students' awareness that enterprising behaviour is acceptable and commendable in our society.
Science Students are encouraged to investigate entrepreneurial opportunities in the local community. Opportunities investigated may relate to: • environmental care and natural resources • technology repair and service • agribusiness • construction and fabrication. The science program facilitates a variety of community partnerships that are intended to develop an understanding of the role of science and technology in society.	Analyze the entrepreneurial potential of project undertaken in the practical arts. Have students work in small groups and discuss how a favourite hobby could become an entrepreneurial activity.
Mathematics Determines the ratio of buying price to selling price and calculates profit.	Community Partnerships Field experiences are an integrated part of community partnerships in the Integrated Occupational Program. They may be developed and used in many forms. Teachers are encouraged to maximize their personal contact with related business and industries in the community. This personal contact facilitates the awareness of available community members to act as guest speakers, demonstrators, job-shadow role models and field trip contacts.
Social Studies Investigates the number of entrepreneurial businesses in the community.	

PRACTICAL ARTS (I.O.P GRADE 8)

WORK SKILLS

CONCEPTS:

- Understands the difference between generic/employability skills and work skills.
- Recognizes the need for safe and sanitary work practices in the home, the school, and the workplace.
- Develops an understanding of how to respond to emergencies:
  - fire
  - personal injury
  - injury to others
  - tool or equipment breakage or failure
  - hazardous product leakage or contact.
- Recognizes that time and practice will improve performance and/or project quality.

SKILLS:

The skills related to WORK SKILLS are outlined in the learning objectives in column one.

ATTITUDES:

- Appreciates the value of review, repetition and reinforcement to the development of work skills competency.
- Develops a commitment to personal growth in the context of the practical arts.
- Understands the value and shows respect for the property of others when using tools, equipment and supplies.

LEARNING OBJECTIVES

Related Life Skills

WORK SKILLS

The work skills identified in this curriculum guide are generic to each of the thematic activities contained in the Practical Arts *Teacher Resource Manual.*

Each activity will enable students to develop concepts, skills and attitudes that:

- reinforce knowledge, skills and attitudes learned across the curriculum
- provide opportunities to gain awareness of career opportunities from among clusters of occupations
- develop organizational and planning skills including decision making and problem solving, good work habits and time and task management.

Life skills are addressed in each of the following themes:

- ALL ABOUT BUSINESS
- PERSONAL AND PUBLIC SERVICES
- TECHNIQUES WITH TECHNOLOGY.

Related Applications Across the Curriculum	Suggested Strategies/Activities

Suggested teaching strategies and activities are included in the *Teacher Resource Manual*.

Teachers are encouraged to supplement and complement the material contained in the *Teacher Resource Manual* with additional learning activities that best meet the needs, interests and ability levels of their students.

Community Partnerships

Community partnerships are an integral component in the teaching and learning of work skills related to each theme and occupational cluster.

Partnership activities may include:

- in-school activities
  - using community newspapers, newsletters
  - guest speakers
  - guest demonstrators
  - guest project evaluators
  - community and parent visitations
  - customer services
- field experience activities
  - job shadowing
  - field trips
  - interviews
  - surveys
  - volunteerism
  - part-time jobs
  - community work
  - work study.

COURSE: PRACTICAL ARTS (I.O.P. Grade 8)
CONCEPT: WORK SKILLS (5)

LEARNING OBJECTIVES	Related Life Skills
A. EMPLOYABILITY	Wants to get a job. Recognizes the abilities needed to get a job.
A.1 Defines "employability".	
A.2 Recognizes the difference between employability skills and work skills: • the desire to work • the ability to perform specific tasks.	Employability skills: • attends school regularly • relates well to others • is always on time • wants to do well in all tasks attempted. Work skills: • selects right tool for the job • is able to identify the components of a task; e.g., how to repair a punctured bicycle tire • cleans up work area after use • follows job safety instructions.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Language Arts Develops technical and specialized vocabulary related to each practical arts area (e.g., employability, technology, tourism, profit margin).	The concept of employability is a generic skill. Employability is the term used to describe a person's readiness and ability to obtain employment. Each of the generic components contained in the curriculum guide will enable students to develop a body of concepts, skills and attitudes related to: • career awareness • human relations • organization and planning • entrepreneurship. This body of concepts, skills and attitudes is taught through activities contained in the following themes: • ALL ABOUT BUSINESS • SERVICE THAT MAKES A DIFFERENCE • TECHNIQUES WITH TECHNOLOGY These themes provide the vehicles by which students develop concepts, skills and attitudes that will enable them to make decisions about possible career paths in one or more of eight occupational clusters: • Agribusiness • Business and Office Operations • Construction and Fabrication • Creative Arts • Natural Resources • Personal and Public Services • Tourism and Hospitality • Transportation. The *Teacher Resource Manual* contains a matrix that shows the relationship between each of the thematic activities and the occupational clusters. Have students: • brainstorm to associate the occupation to which each activity might relate • discuss the transferability of concepts, skills and attitudes from one occupational cluster to others • list specific occupations and real life situations where skills learned through each activity could be used.

COURSE: PRACTICAL ARTS (I.O.P. Grade 8)
CONCEPT: WORK SKILLS (5)

LEARNING OBJECTIVES	Related Life Skills
B. SAFETY	
B.1 Identifies safety practices used in the workplace.	Recognizes safety practices used in the home: • early detection practices – installs smoke detectors – takes body temperature, using a clinical thermometer • prevention practices – stores gas, paint and other flammable substances in safe place – keeps medicines and sharp tools and implements away from reach of very young children – does not use electrical appliances with damaged cords – wears protective clothing • emergency procedures – plans a route for escape in case of fire – keeps a fire extinguisher in kitchen – knows telephone number of local fire, police, ambulances services.
B.2 Demonstrates safe work practices.	

Related Applications Across the Curriculum	Suggested Strategies/Activities

Language Arts

Uses a thinking skills strategy to investigate the reasons for following safety precautions and the consequences and sequels of not following them (alternatives, choices, possibilities, considering all factors).

Science

Practises safe procedures for handling and storing laboratory/household materials that are potentially dangerous. Students are also expected to demonstrate manipulative skill and an understanding of safe laboratory procedure in performing investigations/ experiments.

Safety is everybody's business in the home, the school and in the workplace.

In the practical arts, students are required to learn how to use and handle a variety of equipment, tools and supplies that, if used improperly, could cause injury. For this reason, students must be taught early in their practical arts courses how to:

- act in case of an accident or injury
- respond to emergency situations such as
  - fire alarms
  - chemical spills
  - equipment stoppage
- prevent accidents and injuries by
  - safe use of tools, equipment and supplies
  - proper maintenance of lab and work area
  - inspection of equipment and tools before use
  - proper storage of equipment, tools and supplies
  - using body, eyes, ears and respiratory protectors
  - wearing protective clothing
  - not wearing jewellery, loose clothing or long hair when working with power tools and equipment.
  - properly handling all equipment, tools and supplies:
    - pre-start checklist for unsafe conditions
    - location of master control switch turn off electrical power
    - storage locations and proper methods of storage.

Have students read and complete a safety pledge form.
(See *Teacher Resource Manual*: "Work Skills".)

Use the CARE mnemonic to reinforce safety:
C = caution
A = alertness
R = responsibility
E = everyday.

Encourage students to report anything they consider to be unsafe to the teacher and to make suggestions for improvement.

LEARNING OBJECTIVES	Related Life Skills
C. SANITATION	Appreciates the value of a clean and infection free living and working environment.
C.1 Identifies sanitary practices used in the workplace: • working conditions • infection control.	
C.2 Demonstrates appropriate personal and public hygiene practices: • disease control • health control • pollution control • waste management • appearance.	Personal hygiene: • washes hands before and after – handling food – performing personal services to customers; e.g., hair care, esthetology • bathes regularly • wears clean clothes • controls body odor. Public hygiene: • keeps own room clean and tidy • keeps area around home free from debris and weeds • keeps work area clean and well organized • uses disinfectants to destroy germs and bacteria.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Science Recognizes the importance of pollution control/waste management in facilitating ecological balance and environmental health in the study of the topic "Interacting with Our Environment".	Have students: • define "hygiene", "sanitation" and "infection". Have students discuss the procedures that need to be taken to maintain a sanitary environment: • at home • in school • in a food lab • in a hair care/esthetology salon • in a day-care centre • in a meat processing plant. Personal Hygiene and Human Relations Ask students to relate good personal hygiene to good human relations. Personal hygiene practices: • body care • health care • clothes care • regular exercise • regular medical, dental checks • balanced diet. Public hygiene practices: Community • pollution controls – noise – air • public health units – inoculations – vaccinations – disease control • street cleaning • public toilets Home • infection control • refrigeration • cleaning, washing, sterilizing. Describe and demonstrate, where appropriate, effects of an uncontrolled environment in the home and in the workplace. Related demonstrations may include: • molding food stuffs • rotting wood • peeling paint • rusting • crop infections • cattle diseases

LEARNING OBJECTIVES	Related Life Skills

D. TOOLS, EQUIPMENT AND SUPPLIES

D.1 Identifies task related tools, equipment, supplies:
- names each item
- states the function of each item
- identifies safety rules and procedures for handling each item.

Related Applications Across the Curriculum	Suggested Strategies/Activities
	• human disease carriers • spread of infections. Community Partnerships Invite health and sanitation workers to speak with students: • school nurse • medical doctor • sanitary engineer • Occupational Health and Safety official. Visit work sites related to occupations in which strict hygiene and sanitation is practised: • milk processing plant • restaurant/cafeteria • hospital • beauty salon • day-care centre.
Mathematics Students are encouraged to use a variety of measuring tools.	There are a variety of processes specific to various areas of the practical arts which require familiarity with task related tools, equipment and supplies. For example: • baking • bending • boiling • communicating • copying • counting • cutting • drilling • filing • finishing • frying • grilling • grinding • joining • keyboarding • mixing • shaping • toasting • writing. Students should be made aware that tools and equipment that perform similar functions often have common structures and require common skills. For example, tools that cut usually have sharp teeth or sharp edges. The process of joining two similar materials usually involves glue or the addition of similar material, sometimes under heat, in order to bond the two surfaces. By learning to recognize these common processes, students will be better able to select an appropriate tool for a specific job.
Science Investigates principles governing the operation of a variety of mechanical tools and technological devices (*Teacher Resource Manual*: "Using Energy and Machines"): • How does it work? • How do I use it? • How might I repair it?	

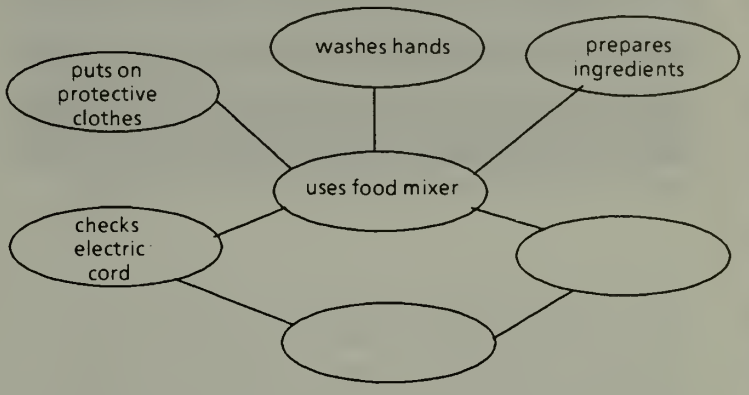
COURSE: PRACTICAL ARTS (I.O.P. Grade 8)
CONCEPT: WORK SKILLS (5)

LEARNING OBJECTIVES	Related Life Skills
D.2 Uses tools, equipment, supplies: • displays responsibility while using each item • follows safety rules and procedures appropriate to each item.	

Related Applications Across the Curriculum	Suggested Strategies/Activities
	Assemble a number of tools with which the students are likely unfamiliar, and require the students to determine the most probable use for that tool. During the day-to-day lab activities, frequent opportunities will arise for practising this same skill of discernment. The exercise of comparing and grouping characteristics into commonalities and differences will aid students to identify tools, equipment, supplies and their uses.
	Label each piece of equipment. Use tool boards and/or labelled storage areas to assist students to associate each item with its proper name and its proper storage location.
	Use information and handout sheets to identify tools, equipment and major supply items related to the practical arts activities to be performed in the lab. In a new lab situation, students can be involved in the constructing of tool boards, storage areas and the labelling of each area.
	Some students may be deficient in psychomotor ability and require more individualized attention and closely supervised practise.
	Where student numbers and ability levels permit, the teacher might consider using a peer-support strategy and have a more competent student assist one experiencing difficulty.
	Prior to using the peer support strategy, have the students discuss the need for people-to-help-people/buddy systems in the lab and in various work situations.
	Stress the safety rules and procedures that must be followed before, during and after handling each item of equipment.
	Have students brainstorm to produce a web that shows the safety rules and procedures that must be followed before, during and after handling items of equipment, tools and supplies.

LEARNING OBJECTIVES	Related Life Skills
D.2 Uses tools, equipment, supplies (cont'd).	

Related Applications Across the Curriculum	Suggested Strategies/Activities



NOTE: With I.O.P. students, the practice of demonstrating the use of tools and equipment and checking students out on each item before they are authorized to operate it is very important. With students who have experienced difficulty in learning, it is necessary for the teacher to document repeated efforts to ensure the students learn to operate tools and equipment safely, and that they are supervised whenever they are operating those items. Special attention must be paid to ensuring safe operating procedures by students working with power tools and equipment and potentially hazardous materials.

(See *Teacher Resource Manual*: thematic learning activities: "Safety and First Aid", "Safety: The Tools of the Trade".)

LEARNING OBJECTIVES	Related Life Skills
E. PROJECTS	
E.1 Follows project instructions.	Builds a model from a kit. Prepares baby formula. Bakes a cake, using a recipe. Uses a calculator to answer a mathematical problem.
E.2 Completes projects to acceptable standards.	

Related Applications Across the Curriculum	Suggested Strategies/Activities
Mathematics Students are required to follow instructions in a problem-solving setting and be able to judge if the solution is appropriate/accurate. Science Follows sequences of written instructions in performing many laboratory investigations. The three-step framework for scientific inquiry and problem solving provides a structure in which critical thinking skills and the decision-making process can be used in order to complete a project: • Understanding the Problem • Developing and Carrying Out a Plan • Reviewing and Applying Results.	Projects related to the practical arts are contained in thematic units in the *Teacher Resource Manual*. Each thematic unit contains projects that will enable students to develop generic skills and work skills that may be related to one or more of the occupational clusters addressed in the occupational component of the Integrated Occupational Program. In schools where I.O.P. students are integrated into regular practical arts classes, teachers may relate appropriate projects in each of the three thematic units to the regular practical arts subject areas -- Business Education, Home Economics, and Industrial Education, and have I.O.P. students do the thematic projects in the appropriate regular practical arts courses. Teachers are encouraged to supplement and complement the thematic projects with their own and other instructional materials. (See *Teacher Resource Manual*: "Planning A Thematic Learning Activity".)

I.O.P. PRACTICAL ARTS PROFILE, GRADE 9

1 CAREER AWARENESS

A. OCCUPATIONAL CLUSTERS

1
Selects clusters for exploration in Grade 10

B. RELATED COURSES

1
Selects courses for exploration in Grade 10

C. JOBS AND CAREERS

1	2	3
Recognizes the value of short-term job and long-term career plans	Identifies part-time jobs in the community	Projects future career opportunities

D. LIFELONG LEARNING

1	2
Recognizes the value of lifelong learning	Identifies opportunities for continuing education

E. JOB SEARCH

1	2	3	4
Identifies forms and other written materials used in the job search process	Identifies personal interests and abilities	Relates personal interests and abilities to job and career plans	Applies for part-time employment

2 HUMAN RELATIONS

A. PERSONAL DEVELOPMENT

1	2	3	4
Develops personal strengths	Becomes aware of personal limitations	Identifies personal goals	Recognizes areas for personal growth

5	6	7
Demonstrates responsible behaviour	Demonstrates flexibility, innovative and creative behaviour	Exhibits pride in personal achievements

8	9
Copes effectively with criticism and change	Maintains a well-groomed appearance

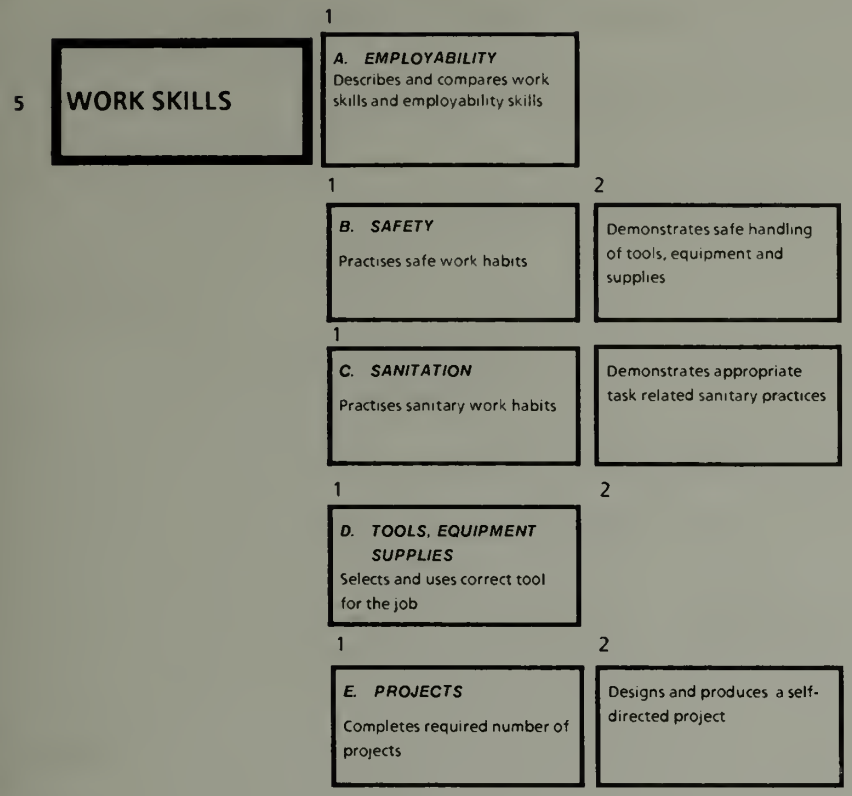
B. INTERPERSONAL RELATIONS

1	2	3	4
Relates well to peers and others	Recognizes rights of others	Shows respect for lawful authority	Displays appropriate assertive behaviour

I.O.P. PRACTICAL ARTS PROFILE, GRADE 9 (cont'd)

		1	2	3	4
		C. COMMUNICATIONS Reads simple business correspondence	Writes simple business correspondence	Uses basic occupational terms	Recognizes and follows visual instructions
		5	6	7	
		Asks questions	Seeks help when needed	Develops public communication skills	
3	**ORGANIZATION AND PLANNING**	1	2	3	
		A. WORK HABITS Attends regularly	Is punctual	Completes work on time	
		1	2	3	4
		B. DECISION MAKING Identifies the problem	Formulates a plan	Recognizes alternative courses of action	Establishes desirable outcomes
		5	6	7	
		Identifies criteria for evaluating outcomes	Portrays the decision-making/problem-solving process graphically	Applies a simple decision-making/problem-solving process to a task	
		1	2	3	4
		C. COMPUTATIONS Applies basic computations to a task	Calculates simple percentages	Makes change for purchases up to $100	Recognizes the uses of metric and imperial measures
		5			
		Draws and interprets simple table, chart and graph			
		1	2	3	4
		D. STANDARDS Identifies related occupational standards	Describes related occupational safety standards	Describes personal and public hygiene practices	Completes projects and/or provides services to acceptable standards
		1			
4	**ENTREPRENEUR-SHIP**	***A. ENTREPRENEURIAL AWARENESS*** Identifies potential entrepreneurial opportunities in occupational clusters			

I.O.P. PRACTICAL ARTS PROFILE, GRADE 9 (cont'd)



PROGRAM OF STUDIES/PRESENTATION OF CONTENT

PRACTICAL ARTS (I.O.P. GRADE 9)

CAREER AWARENESS

CONCEPTS:

- Recognizes the relationships between job and career planning and occupational cluster and course selection.
- Recognizes the major stages of the career planning and the job search processes.
- Understands how to apply job search strategies when seeking part-time paid or volunteer employment.
- Develops an increased understanding of the relationship between career planning, continuing education and lifelong learning.

SKILLS:

The skills related to CAREER AWARENESS are outlined in the learning objectives in column one.

ATTITUDES:

- Appreciates the need for the ongoing development of knowledge, skills and attitudes appropriate to clusters of occupations.
- Further develops an attitude of curiosity and openness to new ideas and opportunities, being critical and constructive in the identification and selection of potential career paths.

COURSE: PRACTICAL ARTS (I.O.P. Grade 9)
CONCEPT: CAREER AWARENESS (1)

LEARNING OBJECTIVES	Related Life Skills
A. OCCUPATIONAL CLUSTERS	
A.1 Selects occupational clusters for exploration in Grade 10: • agribusiness • business and office operations • construction and fabrication • creative arts • natural resources • personal and public services • tourism and hospitality • transportation.	Identifies occupational clusters offered in local high schools. Uses clustering to categorize personal belongings, hobbies and interests; e.g., – Record Clusters: Country, Rock, Heavy metal – Sports Equipment: Football gear, Soccer gear, Hockey gear – Tools: Woodworking, Kitchen, Crafts and arts
B. RELATED COURSES	
B.1 Selects occupational courses for exploration in Grade 10.	Relates occupational courses available in local high schools to jobs and careers currently available in the community: AGRIBUSINESS AND NATURAL RESOURCES • Agribusiness – Dairy – Crops – Cattle – Processing – Mechanical services • Forestry • Mining • Oil and gas. BUSINESS AND OFFICE OPERATIONS • Office assistant • General clerk • Mail clerk • File clerk • Receptionist • Salesperson – Direct – Telephone – Retail – Wholesale • Marketing assistant • Telephone operator • Lighting assistant.

Related Applications Across the Curriculum	Suggested Strategies/Activities

General

Career awareness is addressed within each practical arts and senior high school occupational course. Commencing in Grades 8 and 9, students develop an awareness of potential career fields. In subsequent years, this awareness is further developed through a process of career exploration in Grade 10, career orientation in Grade 11, and preparation for entry into an occupational area in Grade 12.

Mathematics

Presents and interprets information concerning jobs and careers in graphic and tabular form.

Have students:

- brainstorm to identify jobs currently available in the community (list them on the chalkboard or overhead)
- work in small groups to categorize the listed jobs into the eight occupational clusters
  - agribusiness
  - business and office operations
  - construction and fabrication
  - creative arts
  - natural resources
  - personal and public services
  - tourism and hospitality
  - transportation
- further categorize the jobs available in the community by relating them to occupational and practical arts courses available at local high schools.

Community Partnerships

Initiate visits to local high schools to increase students' awareness of available programs and courses. (Although school visits may have occurred during the previous year, visit local high schools again in Grade 9. High school programs and teachers may have changed. In addition, students' interests and awareness of their abilities will have changed from the preceding year.)

Invite teachers, counsellors and students from local high schools to discuss program offerings with the class.

Should a student want to enrol in an occupational course not currently available in a local high school, encourage the student, with his or her parents, to explore the possibility of meeting the course requirements through community partnership activities.

Encourage students to explore a broad range of occupations by using:

- field trips
- job shadowing
- guest demonstrators and speakers
- individual explorations
- part-time paid or volunteer employment.

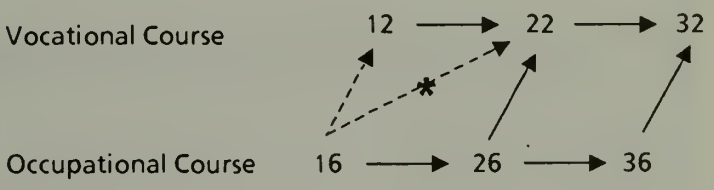
LEARNING OBJECTIVES	Related Life Skills
B.1 Selects occupational courses for exploration in Grade 10 (cont'd).	CONSTRUCTION AND FABRICATION • Sub-trade helpers – Carpentry – Plumbing – Flooring – Heating – Concrete – Electrical – Bricklaying – Roofing – Painting and decorating – Floor covering – Glazing. CREATIVE ARTS • Equipment operator • Photographer • Printer's helper • Design and layout • Cottage arts and crafts • Picture framing • Audio-visual assistant • Stagehand • Television camera helper. PERSONAL AND PUBLIC SERVICES/ TOURISM AND HOSPITALITY • Hair care worker • Esthetologist • Child care assistant • Health care assistant • Fabric care and cleaning • Food service workers – bus person – waiter – waitress – maitre d' • Food production worker – cook – cook's helper – fast food preparer • Maintenance worker • Chambermaid • Houseman • Hotel/motel desk clerk.

Related Applications Across the Curriculum	Suggested Strategies/Activities

Ensure that students are aware of their options in high school:

- enrolment in the Integrated Occupational Program enables students to explore a minimum of two 16-level occupational courses
- enrolment in other practical arts programs; e.g., home economics, industrial arts and business related courses are options
- students who demonstrate appropriate concepts, skills and attitudes may enrol in a vocational program.

In addition, ensure that students are aware of possible transfer routes from an I.O.P. occupational course to a vocational course:



* Where there is course equivalency and according to principal's discretion, a transfer route from a 16-level occupational course directly to a 23-level vocational course may be possible.

COURSE: PRACTICAL ARTS (I.O.P. Grade 9)
CONCEPT: CAREER AWARENESS (1)

LEARNING OBJECTIVES	Related Life Skills
C. JOBS AND CAREERS	
C.1 Recognizes the value of short-term job and long-term career plans.	Participates in career planning activities: • discusses future goals with parents, peers, teachers and school counsellor • explores a variety of job and career options by participating in all practical arts activities. Recognizes the importance of developing skills that are transferable in order to be able to adapt to changes in the workplace.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Social Studies Uses background information to begin planning short- and long-term employment.	Review Grade 8 strategies/activities: • define concepts "career", "job" • using the local newspaper and have students identify jobs and careers in the classified employment sections • have each student identify two jobs and two careers that are of interest, investigate each job and career selected, and answer the following questions.

Profile of a Job: _____
What the job involves (duties, activities, responsibilities, hours):
What the job requires (concepts, skills, attitudes):
What the job has to offer (wages, benefits, security, promotion):
What could happen to me if this job becomes obsolete?

LEARNING OBJECTIVES	Related Life Skills
C.2 Identifies part-time jobs in the community.	Reads classified employment advertisements in local newspapers. Reads business, industry and trade magazines. Seeks and obtains part-time paid or volunteer employment.
C.3 Projects future career opportunities.	Discusses future employment opportunities with part-time employers. Reads newspapers and magazines to become more aware of employment trends.

Related Applications Across the Curriculum

Science

Visits local business and industry for first-hand observation of how scientific concepts and principles are used in a variety of occupational areas. Investigations may relate to:

- Monitoring the Local Environment
- Using Chemical Products/Reactions
- Heat and Electricity in the Home.

Mathematics

Reads and interprets employment statistics and prepares and presents the information in graphic form.

Social Studies

Interviews employers who hire part-time as well as full-time personnel to investigate employment requirements.

Suggested Strategies/Activities

Profile of a Career: _____	
What the career involves (duties, activities, responsibilities, hours):	
What the career requires (concepts, skills, attitudes):	
What the job has to offer now and in the future (wages, benefits, security, promotion):	
NOW	FUTURE
What could happen to me if this career became obsolete?	

Have students who want part-time employment:

- write an advertisement and post it in the community on notice and bulletin boards that permit free postings
- use word-of-mouth networking techniques to spread the word of their job interest
- contact local hospitals, day-cares, parks, senior citizens homes and offer volunteer services.

Ask students to identify the benefits of both paid and volunteer employment:

- increased learning experiences
- pocket money
- community service
- employers may be used as future references when applying for other work
- provides prospective employers with a summary of a student's enterprise and abilities when details of past employment are contained in a résumé.

Community Partnerships

Invite speakers to discuss present and future job and career opportunities. Include representatives of:

- businesses and industries
- employers and employees
- unions
- Career Development and Employment office
- high school counselling departments

Have students participate in a variety of field experiences:

- field trips
- job shadowing
- work study
- mentorships.

(See *Teacher Resource Manual*: "Career Planning" learning activity.)

LEARNING OBJECTIVES	Related Life Skills
D. LIFELONG LEARNING	
D.1 Recognizes the value of lifelong learning.	Participates in hobbies and activities that promote the growth and development of appropriate concepts, skills and attitudes: • plays individual and team sports • reads books, magazines, journals • takes music, dance or choral lessons • joins in community league/church activities • volunteers services to agencies and needy individuals. Recognizes that changes in technology and the local economy will mean that some people will need to be retrained four or five times throughout their working lifetimes.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Language Arts Recognizes the relationship between lifelong learning and lifelong reading.	Review Grade 8 strategies and activities: • identify centres that offer continuing education in the community • obtain a brochure from each centre that outlines programs offered • map the types of courses offered. Have students identify: • new courses offered by each centre • why each new course is offered • how many people attend each centre, part-time and full-time • the approximate age groups that take courses – 16-25 years of age – 26-35 years of age – 36-50 years of age – over 50 years of age. "Why are so many people attending continuing education centres?" "Why would people over 50 years of age take courses?" "What are the benefits of lifelong learning?" List their ideas on the chalkboard or overhead. Have students categorize the list of benefits into four clusters: • Psychological development • Social development • Emotional development • Skill development.
Science Recognizes how developments in science and technology influence and change: • occupational opportunities available in the local community • the nature of the skills required in specific occupational clusters (e.g., agribusiness, construction and fabrication, natural resources, and transportation).	

LEARNING OBJECTIVES	Related Life Skills
D.2 Identifies opportunities for continuing education.	Trains and receives coaching in: • homemaking (baking, child care, consumerism, cooking, home repairs, sewing) • sports (athletics, baseball, gymnastics, skating, skiing) • hobbies (collecting, horse riding, model building, and so on).

Related Applications Across the Curriculum	Suggested Strategies/Activities

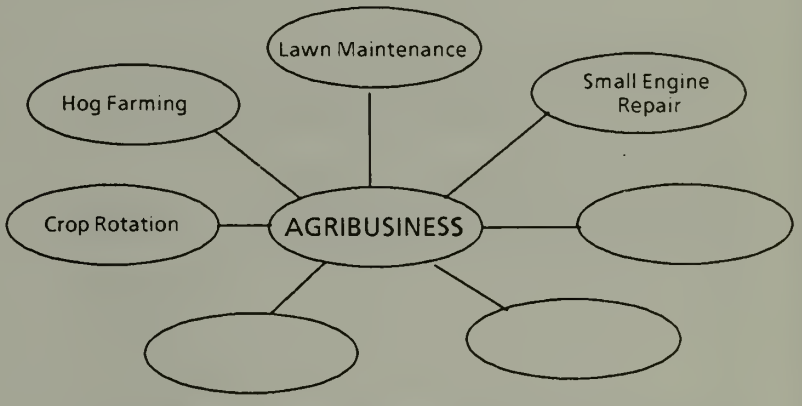
Social Studies

Investigates the numbers and the foci of local post-secondary institutions (e.g., community colleges, technical institutions, and universities) in and around the community and relates available courses to practical arts activities.

Opportunities for continuing education appear to be growing throughout the province. Programs may be offered by:

- continuing education centres
- university extension departments
- community leagues
- churches
- high schools offering adult interest classes.

When students have identified the local centres for continuing education and the courses each offers, have them work in small groups and map courses available that relate to each of the eight occupational clusters in the I.O.P. senior high program. For example:



Each group of students might be assigned to map courses that relate to one or two occupational clusters.

Community Partnerships

Have students visit a variety of continuing education centres. Invite program managers and teachers from the centres to discuss their programs with the class. Encourage students to identify possibilities where this knowledge and skills might be used to instruct and help others:

- church group
- playground worker
- youth club
- guide and scout pack.

LEARNING OBJECTIVES	Related Life Skills
E. JOB SEARCH	
E.1 Identifies forms and other written materials used in the job search process: • resume • letter of application • application form • letters of reference/references • advertisements • reference file cards.	Writes in complete sentences. Writes letters and postcards. Obtains application and information forms. Organizes information into categories/ clusters: • records and tapes • sports equipment • magazines and so on.
E.2 Identifies personal interests and abilities: • concepts • skills • attitudes.	Takes stock of self: • present responsibilities • present activities • hobbies • interests • skills • likes • dislikes • short-term goals • long-term goals.
E.3 Relates personal interests and abilities to job and career plans.	

Related Applications Across the Curriculum	Suggested Strategies/Activities

Language Arts

Uses correct punctuation, sentence structure and parts of speech when completing the written work necessary to apply for a job.

Have students:

- apply for a social insurance number and discuss the purpose of the SIN
- write practice letters of application for jobs identified in the community
- obtain application forms from local businesses, a government employment office, hospitals, parks and recreation departments, etc., and compare the type of information required on different forms
- examine sample resumes and identify various ways of grouping/clustering information
- write an advertisement that offers their services for paid or volunteer employment.

(See *Teacher Resource Manual*: "Career Awareness".)

Science

Develops a strategy for scientific inquiry and problem solving. This strategy fosters sequenced thinking, and directly relates to the tasks undertaken in the job search process:

- Understanding the Problem – gaining access to information and ideas
- Developing and Carrying Out a Plan – working with information and ideas
- Reviewing and Applying Results – drawing conclusions and communicating results.

Have students compile a "personal inventory" table of their interests, abilities and goals.

PERSONAL INVENTORY
Name: _____
INTERESTS: • hobbies • sports • T.V. shows • magazines • animals
ABILITIES: • skill with tools • sports • cooking • sewing
GOALS: • short term _____ • longer term _____

Social Studies

Gathers data about self from self and others and relates and applies knowledge to potential careers.

Have students work in small groups and:

- share each other's personal inventory
- discuss the type of jobs/careers that may be suited to each students personal inventory
- discuss how personal inventories may change over time
- examine and comment on each other's short- and long-term goals
- relate personal inventory and goals to possible courses that each student might take in Grade 10.

LEARNING OBJECTIVES	Related Life Skills
E.3 Relates personal interests and abilities to job and career plans (cont'd).	

Related Applications Across the Curriculum	Suggested Strategies/Activities

Community Partnerships

Establish community partnerships for both in-school and field experiences to provide students with "real world" information concerning the job search process. Partnerships may include:

- school guidance counsellor
- business/industry representative
- personnel manager
- Career Development and Employment counsellor
- workers representing various occupational clusters.

Strategies may include:

- in-class presentations and discussions
- job shadowing
- visits to or by school graduates and teachers presently involved in one or more practical arts or occupational courses at a local high school.

PRACTICAL ARTS (I.O.P. GRADE 9)

HUMAN RELATIONS

CONCEPTS:

- Develops an increased understanding of personal strengths and weaknesses.
- Recognizes that achievement is directly related to effort.
- Understands the importance of being able to communicate verbally and non-verbally with others.

SKILLS:

The skills related to HUMAN RELATIONS are outlined in the learning objectives in column one.

ATTITUDES:

- Appreciates the importance of having a positive self-concept.
- Appreciates the value of effective communication skills.
- Develops self-confidence and overcomes fear in relating to others.
- Appreciates the rights of others, including those from other cultures, the young, the aged and the disabled.

COURSE: PRACTICAL ARTS (I.O.P. Grade 9)
CONCEPT: HUMAN RELATIONS (2)

LEARNING OBJECTIVES	Related Life Skills
A. PERSONAL DEVELOPMENT	
A.1 Develops personal strengths: • social • emotional • physical • intellectual.	Displays increased consideration for others: • parents • siblings • teachers • peers. Asks for assistance when unable to understand or complete a task. Assists others.
A.2 Becomes aware of personal limitations.	

Related Applications Across the Curriculum	Suggested Strategies/Activities
Language Arts Develops strategies to enhance strengths and minimize weaknesses.	Review and reinforce concepts, skills and attitudes learned in Grade 8. Use a case study approach and provide examples of individuals such as Rick Hansen and Steve Fonyo who have overcome adversity and achieved significant goals. Wherever possible, use case studies of role models who are currently and publicly visible. Use a peer support model; e.g., provide students with a 7.5 cm × 12.5 cm lined card and have them: • draw a line down the middle of each side of the card • head the left-hand column "strengths", the right-hand column "weaknesses" • number and list personal strengths and limitations:
Social Studies Monitors interactions between self, family members, teachers, and peers to increase awareness of behaviour in social situations. Uses personal strengths to overcome weaknesses. Accepts self with inherent strengths and weaknesses.	For many students, the number of items in the "limitations" column will outnumber those in the "strengths" column. Ask students to: • share their lists with classmates • discuss individual strengths and weaknesses • indicate additional strengths and limitations the individual may have overlooked. Discuss the power of the self-image and the concept of "limiting beliefs". Provide examples of how limiting beliefs can restrict us from using the strengths we have: • the adult elephant who has been conditioned since birth to stay in one area when one leg is tethered • the breaking of the "four-minute mile" barrier by Dr. Roger Banister. (See *Teacher Resource Manual*: "Human Relations".)

STRENGTHS	LIMITATIONS
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

COURSE: PRACTICAL ARTS (I.O.P. Grade 9)
CONCEPT: HUMAN RELATIONS (2)

LEARNING OBJECTIVES		Related Life Skills
A.3	Identifies personal goals.	Selects occupational courses to explore in Grade 10.
A.4	Recognizes areas for potential growth.	Discusses career plans with significant others.
A.5	Demonstrates responsible behaviours.	Initiates and leads activities and participates in other directed activities: • sports • games • community partnerships/activities.
A.6	Demonstrates flexible, innovative and creative behaviours in appropriate contexts.	Speaks well of self, home, school and others.
A.7	Exhibits pride in personal achievement.	Accepts direction and follows instructions.
A.8	Copes effectively with criticism and change.	Practises personal hygiene: • bathes regularly • exercises • maintains a balanced diet • has regular medical and dental check-ups • wears clothes appropriate to the job.
A.9	Maintains a well-groomed appearance.	

Related Applications Across the Curriculum	Suggested Strategies/Activities
Mathematics Uses a problem-solving approach to improve performance and creativity. Science Students are expected to assume responsibility for their personal conduct. Innovative and creative behaviours are developed through activities that encourage students to: • ask questions • share observations and ideas • seek answers. Creative thinking is also encouraged throughout the scientific inquiry and problem-solving process (e.g., Heat and Electricity in the Home – designs and constructs a simple technological device that will assist in performing some function in the home). Social Studies Continues to engage in self-discovery and self-evaluation activities and to alter goals as personal and environmental change suggests.	Reinforce positive changes in each student's achievement, appearance and performance regularly with: • student of the week/month awards • weekly or monthly "performance charts" • "most improved student" awards. Various strategies for reinforcing positive changes in student's behaviour should be attempted, including: • verbal praise – "Well done!" "That's great!" • non-verbal awards – a polaroid photo of a student of the week/month plaque/poster.

COURSE: PRACTICAL ARTS (I.O.P. Grade 9)
CONCEPT: HUMAN RELATIONS (2)

LEARNING OBJECTIVES	Related Life Skills
B. INTERPERSONAL RELATIONSHIPS	
B.1 Relates well to peers and adults.	Addresses others in a polite manner: • says "good morning", "good afternoon", etc. • uses "please" and "thank you".
B.2 Respects the rights of others.	Treats others with respect regardless of: • sex • age • ability • cultural diversity. Respects the privacy of others' feelings and belongings.
B.3 Shows respect for lawful authority.	Follows verbal, written and visual instructions: • parent's instructions for baby-sitting • teacher's instructions in a lab • rules of the road.
B.4 Displays appropriate assertive behaviour.	Gradually "cuts the apron strings" from parental control as appropriate. Sticks up for own beliefs but is willing to respect alternative beliefs. Makes an effort to deal with a conflict from a situational rather than a personal perspective.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Language Arts Applies metacommunication strategies to increase successful interpersonal relationships with classmates, teachers, parents, and community members. Monitors personal, social behaviour and adjusts behaviour to suit the social situation.	Review strategies/activities suggested in Grade 8. The strategies indicated for this area of focus in Grade 8 can be used in Grade 9. For instance: • role playing course/job related scenes • using mnemonics, (e.g., "Great Work!"). In Grade 9, students will have become more mature and will have a better understanding of the Integrated Occupational Program and how it is designed to assist them to recognize and maximize their potential. Have students: • draft a code of conduct for the class • elect a lab foreman weekly/monthly.
Science Performs investigations and completes assignments both independently and in cooperation with others. Strategies for resolving interpersonal conflict are developed and used in group situations when conflict arises.	Community Partnerships Encourage activities/projects that can involve other teachers, students and members of the community: • sale of items made in lab • fashion show • craft fair. Encourage students to take a leadership role in initiating, planning and implementing an activity or project. Involve community partners in the activities, especially members of such groups as: • senior citizens • sheltered workshop • CNIB. Invite guest speakers to discuss the appropriateness of assertive behaviours.
Social Studies Recognizes the rights of others to be listened to and respected, and applies that knowledge to social situations.	

COURSE: PRACTICAL ARTS (I.O.P. Grade 9)
CONCEPT: HUMAN RELATIONS (2)

LEARNING OBJECTIVES	Related Life Skills
C. COMMUNICATIONS	
C.1 Reads simple business correspondence.	Reads: • magazines • local newspapers • report cards • bills • receipts • school handbook • high school information material
C.2 Writes simple business correspondence.	Writes: • letter of application • receipts • bills Completes application forms: • driver's licence • job applications • takes and records messages in writing.
C.3 Uses basic occupational terms.	Draws and labels a flow chart to show series and sequence of operations in a task. Interprets commonly used abbreviations in classified advertisements.
C.4 Recognizes and follows visual instructions: • symbols • signs • colour codes.	Adheres to rules of the road when walking or cycling. Handles equipment and hazardous materials with care. Identifies safe exit route in case of fire. Adheres to safety signs and symbols and colour coded areas in a lab or work site.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Language Arts Uses correct punctuation, sentence structure, parts of speech, and spellings when writing reports and descriptions. Observes and uses abbreviations similar to those found in the classified section of a newspaper.	Have students read literature related to tasks being performed. Encourage use of in-class, school and community libraries and other resource centres. Activity and instruction sheets that are specific to each segment of the course should be laid out in a clear and concise manner to: • students' reading levels • clear and concise diagrams/charts • need-to-know technical terms.
Science Uses communication skills in reading and viewing science material, and in recording, summarizing, and communicating ideas in science. Specific strategies that are used to support students in their use of language include: • "RAP" Strategy (paraphrasing) • "SQ3R" Strategy (chapter attack) • "WIS" Strategy (word identification) • Vocabulary Sorting • Idea Diagrams/Semantic Webbing/ Concept Circles. Develops an understanding of basic technical vocabulary related to: • ecology and the environment • chemical products and their active ingredients • thermal and electrical technologies • adaptive structures in living things.	Some students may continue to have difficulty reading written instructions but are able to follow verbal instructions. Strategies and activities noted in Grade 8 may be similarly used in Grade 9. These strategies and activities include working with teachers of Language Arts to integrate unit and lesson planning. Using mnemonic strategies including: • RAP • LIGHT • First-Letter Mnemonic (See *Teacher Resource Manual*: "Suggested Teaching Strategies".) Ensure that students are able to recognize symbols, signs and colour codes relevant to the materials used in the labs and in related workplaces. Students may be involved in colour-coding their work environment. For example, an industrial arts lab can be colour coded: • using a different colour for each work area; woods, metals, power, etc. • the inside or hidden surfaces of machine guards can be painted orange to enable the teacher and the students to see whether a guard is open or disengaged.
Mathematics Transfers information into picture graphs, bar graphs or line graphs.	Community Partnerships Students must be able to read and interpret signs, symbols and colour codes. These abilities are required in almost all occupations. Invite community partners to discuss the reasons why these abilities are needed in different occupations and to describe the different signs, symbols and colour codes used in their occupations.

LEARNING OBJECTIVES	Related Life Skills
C.5 Asks questions.	Is able to approach strangers to ask: "Can you tell me what time it is, please?" "Can you point me in the direction of the Lady Footlocker store, please?"
C.6 Seeks help when needed: • probes for further information • accepts advice.	"Do you have any bottles you would like to contribute to the bottle drive? Our class is having a fund-raiser for our trip to ... " Makes "small talk" with simple questions: "How did you make out with your soccer game last night?" "What are you planning for the weekend; anything fun/interesting?" Asks friends for more detailed information on how to get to his house. "I don't know that part of town. How many blocks is it? What can I look for to know I'm doing OK?"

Related Applications Across the Curriculum	Suggested Strategies/Activities
	Manuals and other literature related to various aspects of safety in the practical arts may be obtained from a variety of businesses, industries, government agencies, and community service organizations: • Alberta Agriculture • Alberta Government Telephones • Chambers of Commerce • Local Safety Council • Northwestern Utilities • Suppliers • Transport Canada. Maximize the potential for providing "real life" learning experience for students by initiating and encouraging: • part-time paid or volunteer employment • field trips to local businesses and industries • job-shadowing • mentorships.
Language Arts Uses asking and answering techniques appropriately as they relate to specific situations and tasks (e.g., uses higher or lower level questions depending upon information sought).	I.O.P. students often have great difficulty asking questions. They may be socially insecure about approaching a teacher or a stranger, fearful that they may be seen as "stupid". Or, simply, they do not know that they don't know. It takes courage to ask! Teachers should endeavour to establish an atmosphere of trust, acceptance and support, assuring students that their questions are invited and are taken seriously. Encourage students to ask questions by: • praising a spontaneous question with a comment such as "thank you for your question" (See *Teacher Resource Manual*: "Reinforcing the Positive".) • stimulating them to ask questions either of themselves or others: Does this make sense? Where did I begin to go wrong? What do I need to know to get it right? Teach students to become aware of what details they are lacking, and what to ask for in order to complete tasks; e.g., "What should it (dough) look (feel) like before I roll it out?"
Social Studies Identifies helping agencies within the community (e.g., law enforcement, social services, tourist information centre).	

LEARNING OBJECTIVES	Related Life Skills
C.7 Develops public communication skills: • verbal • non-verbal.	Is able to carry on a conversation with a parent, peer, teacher, or community partner. Is able to use socially acceptable non-verbal communication skills: • eye-contact • good appearance • readiness to listen and share meanings.

Related Applications Across the Curriculum	Suggested Strategies/Activities
	Occasionally give students vague or incomplete instructions for a task, to assess how they cope. Do they: • satisfy themselves with a job not complete? • ask a friend? • ask the teacher? • get frustrated/give up? • work at "filling the information gap" and succeed in spite of poor instructions?
	Provide many opportunities to have students ask questions, encouraging them to move beyond the questioning level that results in "yes/no" answers.
	Role play a customer coming into the store where student works part-time, wishing: • to compliment the staff for their good service • to return a previously purchased product • to see the owner/manager about poor service received.
	Put students into groups and have them formulate questions they would put on a unit exam for a given unit (e.g., safety). Collect the questions and discuss them one by one. • Why is it important to know that? • Will this question produce the information you are looking for?
Language Arts Applies previous knowledge about verbal and non-verbal communication to send and receive messages.	Use the questions formulated by the students on a test. Teachers, peers and guest speakers provide models for subsequent student behaviours. Encourage students to think of communication as involving their whole personality - what they do, how they look, as well as what they say. Have students make presentations to the class: • describing a project they've completed • discussing a job-shadowing experience • comparing one field trip with another.

LEARNING OBJECTIVES	Related Life Skills
C.7 Develops public communication skills (cont'd).	

Related Applications Across the Curriculum	Suggested Strategies/Activities

Provide each student with an evaluation sheet and have them evaluate presentations made by classmates and others.

Presentation Topic: _____ Presenter: _____			
COMMUNICATION SKILL	EVALUATION		
Verbal Skills: speaks clearly asks questions answers questions	Excellent	Good	Poor
Non-verbal Skills: eye contact body posture readiness to listen			
Other comments about the presentation			

(See *Teacher Resource Manual*: "Suggested Teaching Strategies".)

Community Partnerships

Invite community partners to comment on each student's communication skills. (A checklist similar to that suggested for in-class use may be used.)

Encourage students to observe, record in writing, and discuss in class examples of effective and non-effective communication they encounter when on a field experience activity.

PRACTICAL ARTS (I.O.P. GRADE 9)

ORGANIZATION AND PLANNING

CONCEPTS:

- Develops an increased understanding that positive work habits are those that promote the attainment of desired outcomes (i.e., good marks, job attainment, job retention and personal growth).
- Understands that decision making and problem solving are processes that can be adapted to suit different people in different situations.
- Understands how computational ability affects ones capacity to function in the home, the school, and the workplace.
- Understands that standards of performance, production and safety are designed to protect people.

SKILLS:

The skills related to ORGANIZATION AND PLANNING are outlined in the learning objectives in column one.

ATTITUDES:

- Appreciates that organization and planning used in a constructive and creative manner can be beneficial to self and to others.
- Appreciates that time and task management, and safety practices are required skills in a consumer society.
- Accepts the responsibility for developing personal standards of hygiene and for maintaining public hygiene practices.

COURSE: PRACTICAL ARTS (I.O.P. Grade 9)
CONCEPT: ORGANIZATION AND PLANNING (3)

LEARNING OBJECTIVES	Related Life Skills
A. WORK HABITS	
A.1 Attends regularly.	
A.2 Is punctual.	
A.3 Completes work on time.	

Related Applications Across the Curriculum	Suggested Strategies/Activities
Language Arts Develops personal strategies to manage time and to organize tasks. Mathematics Maintains records and transforms assorted data to chart form. Social Studies Demonstrates an understanding of the importance of organizing time in meeting expectations of others.	Teachers experienced in teaching I.O.P. students indicate that these students often require a more structured learning environment. Teachers are encouraged to establish clear expectations for all students in regard to attendance, punctuality and task completion at the start of the practical arts course. Where two or more teachers are scheduled to teach different parts of the course, integrated planning to establish common standards, interrelate projects, and coordinate community partnership activities, will facilitate a more structured learning environment. In addition to maintaining class records, have each student keep a personal record of: • attendance • tardiness • projects completed. A chart indicating projects completed by each student may be posted in the lab. This strategy can be used to improve student motivation by providing some in-class competition. Teachers are encouraged to evaluate each student on: • his or her own performance rather than on comparative performance levels with others • projects seen through to completion • quality of process skills • quality of project outcome performed • the correct identification and recording of materials needed to complete the project. Use self-evaluation, peer-evaluation and teacher-evaluation in assessing a project. Have students suggest what they would do differently if they were to repeat the project. Community Partnerships Involve community partners in establishing and reinforcing mutually agreeable work habits. When students are involved in job-shadowing, mentorship, or other field experiences, request that community partners maintain a record of each student's attendance, punctuality, and other job related work habits.

LEARNING OBJECTIVES	Related Life Skills
B. DECISION MAKING	
B.1 Identifies the problem. B.2 Formulates a plan.	Decision making and problem solving pervade almost every facet of daily life. Students should demonstrate knowledge of the decision-making and problem-solving processes by being aware of their potential use in a variety of situations: • human relations • school • finances • parental communication • part-time employment • career planning.
B.3 Recognizes alternative courses of action.	Recognizes alternative methods of: • finding a hole in a tire • using a typewriter • using a recipe • wearing a scarf • using a nail • sewing a hem • improving marks in school • making new friends • improving communications with others.

Related Applications Across the Curriculum	Suggested Strategies/Activities

Language Arts

Demonstrates an understanding of a basic problem-solving model by using the model and evaluating its appropriateness.

Mathematics

Uses a problem-solving/decision-making model throughout the course.

Science

Uses a three-step framework for scientific inquiry, problem solving and decision making. Students gain experience in using appropriate strategies and process skills in order to:

- Understanding the Problem – gain access to information and ideas
- Developing and Carry Out a Plan – work with information and ideas
- Reviewing and Applying Results – draw conclusions and communicate results.

Language Arts

Uses a learning to learn strategy to develop alternative courses of action when problem solving (e.g., mind mapping, PMI).

The preamble to this document contains an outline of the decision-making and problem-solving model. This model can be reproduced for the students and utilized by the teacher in a lesson to teach thinking skills. Case studies and role playing can be used to impart this process to the students. In selecting situations in which to apply these thinking skills, the teacher is encouraged to use real life circumstances encountered by the students every day:

- You are walking down the street all by yourself at seven o'clock at night and you come across a wallet lying unattended on the sidewalk. What do you do?
- You have a part-time job in a grocery store serving as a cashier. A customer pays you with a twenty dollar bill and you accidentally given change for a ten. The customer has left and is apparently unaware of any mistake. You have a choice between pocketing the ten dollar difference and saying nothing, or taking some other action. What do you do?

Review Grade 8 "Suggested Strategies/Activities".

Emphasize the development of each student's metacognitive abilities as well as their skills in the three domains of learning:

- cognitive
- affective
- psychomotor.

Use a variety of questions to stimulate creative thinking and choosing between alternates such as:

- input questions: questions that require the student to
  - complete
  - count
  - define
  - describe
  - identify
  - list
  - locate
  - match
  - observe
  - select
  - tell
  - name
- process questions: questions that require the student to
  - analyze
  - arrange
  - classify
  - combine
  - compare
  - estimate
  - experiment
  - explain
  - organize
  - report
  - show
  - summarize
  - synthesize

LEARNING OBJECTIVES	Related Life Skills
B.4 Establishes desirable outcomes: • gains – concepts – skills – attitudes – finances • losses – weight.	Recognizes that outcomes are the results obtained by following a plan of action. For example deciding to: • increase school marks by devoting more time to studies • lose weight by walking to school • improve finances by getting a part-time job • join a youth group in order to make new friends. Uses imagination to visualize the outcomes of: • devoting more time to their studies • walking to school every day • getting a part-time job • making new friends.
B.5 Identifies criteria for evaluating outcomes: • standards • consequences.	Recognizes that each person's behaviour tends to be regulated and/or evaluated by him/herself or by others. Knows: • how to behave in class, and the consequences of misbehaviour • how to follow a recipe for baking a cake and how to judge whether it has baked the appropriate length of time • how to use the space bar and the consequences of leaving it depressed.

Related Applications Across the Curriculum	Suggested Strategies/Activities
	• Output questions (questions that require the student to) – build a model – decide – judge – chart – discuss – predict – choose – evaluate – project Use the P.M.I. strategy to assess alternative courses of action. (See *Teacher Resource Manual*: "Suggested Teaching Strategies".)
Mathematics Uses skills of mental arithmetic and estimation to determine outcomes.	Use a variety of questions and skill development strategies to enhance student awareness of actual and potential outcomes. Cognitive skills: • describe the affect of . . . • estimate the sum of . . . • list the parts of . . . • tell how to . . . Affective skills: • how would it feel to . . . • what is the value of . . . • picture the results of . . . Psychomotor skills: • use a recipe to bake a cake • build a model car from a kit • type a letter of application • sew on a button
Social Studies Investigates the relationship between population size and industrial outcomes in a community and the importance of both factors to a community's socio-economic base.	I.O.P. students need to know: • what is expected of them • what they can and cannot do • what the consequences of positive and negative behaviours will be. Consistency, frequency and reinforcement are important factors when teaching students about outcomes, standards and consequences. In small groups, have students discuss and record alternative criteria for evaluating various aspects of their in-school and community partnership activities: • attendance • communication skills • task management • time management.

LEARNING OBJECTIVES	Related Life Skills
B.6 Portrays the decision-making/problem-solving processes graphically.	Draws: • a plan for rearranging a room • a chart to show the name, age and sex of each person in class • a graph to show the points scored by each member of a team • a chart to show projects completed and those yet to be completed.
C. COMPUTATIONS	
C.1 Applies basic computations to a task: • addition • subtraction • multiplication • division.	Determines: • profit and loss when an item is purchased and sold • best buys • amounts of food and other supplies required for a camping trip • materials required to complete a project • cost of multiple purchases • total of wages earned before and after deductions. Takes inventory of: • personal belongings • equipment, tools and supplies • merchandise in school store.

Related Applications Across the Curriculum	Suggested Strategies/Activities
	Have students brainstorm to generate ideas related to alternative outcomes (e.g., good/poor attendance) and the ways in which each outcome may be evaluated.
	Use the S.C.A.M.P.E.R. strategy to generate ideas. (See *Teacher Resource Manual:* "Suggested Teaching Strategies".)
Social Studies Uses a problem-solving model to illustrate the processes undertaken to develop a solution.	Graphic representations of a process provide a concrete medium of instruction for students. This medium of instruction is especially important for I.O.P. students. Have students use flow charts to show the sequential progression of steps in an activity. (See *Teacher Resource Manual*: "Suggested Teaching Strategies".)
	Use the decision-making/problem-solving model in the preamble to illustrate how complex information is often easier to understand when diagrammed graphically.
	Have each student develop and draw a model to represent the decision-making/problem-solving process he or she used to make a recent decision or to solve a recent problem.
Mathematics Demonstrates an understanding of familiar number systems and operations in solving real life, problems that require quantitative thinking and computational facility.	Discuss: "In what way does a model help to explain what is involved in a decision-making/problem-solving process?"
Performs computations through the use of: • mental arithmetic • paper-and-pencil computation • the calculator • estimation.	Computational skills should be taught in applied contexts. Many of the thematic practical arts activities outlined in the *Teacher Resource Manual* require students to demonstrate basic computational competence. For example: • using and modifying recipes • cutting materials to size • keeping records of costs and work performed • calculating keyboarding speeds.
Selects a method of computation that is appropriate to the nature of the problem, and provides reasons for the method chosen.	Continue to involve students in: • estimating supply needs and ordering supplies • estimating and calculating materials required to produce multiples of a product • halving and multiplying recipe ingredients.
	When performing computations, encourage students to use mental arithmetic to estimate quantities, and calculators to check their estimates, when performing computations.

COURSE: PRACTICAL ARTS (I.O.P. Grade 9)
CONCEPT: ORGANIZATION AND PLANNING (3)

LEARNING OBJECTIVES	Related Life Skills
C.2 Calculates simple percentages: • in applied contexts – converts commonly used whole number percents to fractions, and vice versa – converts commonly used whole number percents to decimals, and vice versa – recalls fraction, decimal and percent equivalents for $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$.	Recognizes the use of percentage in: • purchasing in bulk • determining school marks • determining attendance • calculating increase in wages • determining interest on loan charge accounts and savings.
C.3 Makes change for purchases up to $200: • makes change from $20, $50 and $100 bills • checks cash flow for appropriate denominations of coin and paper money.	Counts cost of purchases and cash paid when paying for purchases. Checks money received as change. Recognizes the responsibilities of being a cashier. Collects and handles money from a paper or flyer route.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Mathematics Demonstrates an understanding of concepts related to ratio, proportion and percent at the concrete level through the use of objects/ models/diagrams. Relates skills to everyday applications and a strategy for solving problems.	Ensure that students realize that 100% refers to the total amount (object) under consideration. Have students determine percent in a variety of applied contexts related to the practical arts: • percentage of pocket money spent on clothes, entertainment, food, other • percentage of time spent on each component of a task • percentage of profit as it relates to cost price and selling price • percentage of equipment, tools and supplies to total inventory. Ensure that students are able to: • recognize commonly used fraction, decimal and percent equivalents by using wall charts and posters that show this information in contexts related to the practical arts • use a calculator to compute percent • properly use the term "percent" in discussions.
Mathematics Students are required to make change when studying the following themes: • Managing Your Money – determines change for purchases up to $100. • World of Work – changes $50 and $100 bills into smaller bills and coins – determines and counts back change.	The ability to handle money and make change is a transferable/generic skill that is used in a variety of occupations. To provide necessary practice, students may use either real or artificial coinage and bills. If a cash register is available, students may practise this skill within the shelter of the classroom environment. If not, field experience placements in retail businesses may provide on-the-job training in cash register operation and making change. It is important for the practical arts teacher, or his or her designate, to work closely with the cooperating retailer in supervising and training the student on-the-job in order to prevent misunderstandings whenever the student makes an honest mistake. Constantly emphasize that, when handling money, especially other people's money, there is little room for anything less than mastery. Ensure that students: • develop appropriate money handling skills through repeated practice, checking and double checking money received and change given • recognize the consequences of poor money handling practices in various workplaces and occupations • are not made solely responsible for handling large amounts of cash • know who to ask for assistance regarding a cash handling problem in school or in the work-place

LEARNING OBJECTIVES	Related Life Skills
C.4 Recognizes the uses of metric and imperial measures: • length • mass • area • volume • capacity.	Interprets labels providing product information: • ingredients • mixing instructions. Reads and interprets scales on frequently used measuring tools. Uses the proper tool to measure length, mass, and capacity of various materials. Understands and uses metric and imperial units of measurement in taking inventory and following recipe and project instructions. Makes a punch and estimates number of people it will serve. Measures daily milk production of a cow.

Related Applications Across the Curriculum	Suggested Strategies/Activities
	• know how to handle a simple cash register or use a cash drawer. (See *Teacher Resource Manual:* "All About Business".)
Science Metric measurement skills are developed and reinforced in a variety of practical applications. Students use units/tools/ procedures of measure that relate to: • length • mass • capacity • time • temperature.	Measurements, like all other concepts, skills and attitudes, is developed through experiential activities in the practical arts. Students should be made aware of different measuring tools: • their location • their function • how each is used.
Social Studies Calculates distances between major Alberta cities and recognizes and uses both metric and imperial units of measurement.	Encourage students to develop visualization skills to estimate various common units of measurement and assist them to develop "mind sets" for commonly used measures: • cm, m, km • g, kg, t • cm^2, m^2 • cm^3, m^3 • mL, L. (See *Teacher Resource Manual*: "Organization and Planning".) Metric units of measurement and metric measurement tools should be used whenever possible. However, it should be recognized that students may go home to families or go to part-time jobs that do not use metric. In many instances, a combination of metric and imperial measuring tools and units may be used. In cases where formulas, recipes, and measurements require non-metric units, do not teach conversion of non-metric quantities to metric quantities. Rather, give advice and demonstrate to students the location and the use of non-metric measuring tools and devices.

LEARNING OBJECTIVES	Related Life Skills
C.5 Draws and interprets a simple table, chart and graph: • attendance/performance chart • bar graph • line graph • pictograph.	Reads and interprets Biodex charts. Keeps a record of daily: • rainfall • temperatures • humidity. Reads and interprets information provided in table, charts and graphs in order to pursue a variety of life activities: • income tax • bus, train, plane schedules • metric conversion charts • parts catalogue • TV guide • individual players and team statistics.
D. STANDARDS	
D.1 Identifies related occupational standards: • recognizes and appreciates need for controls and checks in the quality of – performance – product – workmanship – service – sales – after-sales service.	Life situations frequently arise wherein the student is required to evaluate work completed, and determine whether the quality of work is adequate. A student who displays an appropriate level of pride in work completed will set higher standards for that work than would a student who feels less pride in accomplishments.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Science Reads and interprets charts/tables/graphs in order to gather information, and uses these methods of data display to record and organize information gathered from other sources.	Information relating to problem situations is often found in table, chart or graph form and must be interpreted by students before solutions can be attempted. For example: • using a parts supplies or seed catalogue • finding the postal code for an address • determining personal income tax due from chart in tax guide • identifying team and individual athlete's statistics.
Social Studies Interprets charts, graphs, and tables from magazines, newspapers, etc. Gathers data and displays information in visual form.	Have each student: • maintain a log book and record monthly data of tasks completed, marks attained, attendance and tardiness, participation in community partnerships • convert each category of information into a graph • interpret graphs to help identify changes in performance, attendance, etc. • interpret areas of strengths and areas of limitations.
General On the first day of class, distribute a course outline and an information sheet that indicates teacher expectations for students' attendance, performance, etc. This handout may also contain information related to student evaluation. Encourage improved student work standards by providing students with clear statements (written and verbal) of what standards are required in each course and how each component of the work standard is to be measured and marked. Consistency in the use of work standards as an evaluative dimension across the curricula will tend to reinforce students' recognition of the need to produce a piece of work to acceptable standards.	

LEARNING OBJECTIVES	Related Life Skills
D.2 Describes related occupational safety standards: • personal factors • process factors • product factors.	By way of example of an occupational standard, a student may be asked by parents to clean the house. There are varying degrees of cleanliness. Depending upon the level of pride which the student shows in the work, it will be either thoroughly cleaned, or given a once-over treatment. Judgment enters the situation as the student attempts to determine the level of performance expected by parents, teacher and employers. Having determined what is expected, the student will then perform the task to standards set internally, and take pride in a job well done. This same characteristic of displaying pride in work will appear in such life situations as: • carrying out tasks in a field experience project • going above and beyond expectations for school assignments • maintaining a clean and organized work area • carrying out hobby activities to meet high standards set by oneself • taking pride in one's personal appearance • striving to excel in any task that is undertaken, whether at home, at school, or in the workplace.
D.3 Describes personal and public hygiene practices.	
D.4 Completes projects and/or provides services to acceptable standards.	

Related Applications Across the Curriculum

Science

Practises safe procedures for the handling and storage of potentially dangerous materials, and plans and performs experiments using appropriate laboratory procedures. Students learn to interpret hazardous product symbols used on familiar household products.

Danger | Warning Advertisement | Caution Attention | Poison

Potential dangers/appropriate precautions that relate to the use of a variety of mechanical technologies are also considered.

Suggested Strategies/Activities

In developing the practices of quality control and the maintenance of work standards, it is useful for students to note that these practices relate both to the individual and the process, as well as to the finished product. Quality and work standards include:

Personal or individual factors:
- maintaining one's health
- practising personal hygiene
- wearing approved work and safety clothing.

Process quality factors:
- keeping working tools and materials in an orderly manner with "a place for everything and everything in its place"
- maintaining a clean, neat work space to look professional, improve safety and increase efficiency
- working according to generally accepted rules
  - Workers' Compensation Board
  - Employment Standards Code
  - Occupational Health and Safety Guidelines
  - Union contracts (where applicable).

Product quality factors:
- job specifications
- consumer acceptance
- product appearance
- product presentation
- type and level of salesmanship
- after-sales service
- marketing strategies
- customer satisfaction.

Have students evaluate their own work and the work of their peers. Ask students questions related to their work:
- "Are you pleased with your efforts?"
- "What do you like best about your project?"
- "How would you improve the product or service next time?"

Community Partnerships

Provide students with both the knowledge and "feel" for what different industries, businesses and craftsmen describe as "a quality product" by:
- inviting craftsmen and artists to demonstrate their techniques and art forms
- arranging field experiences in related work sites.

PRACTICAL ARTS (I.O.P. GRADE 9)

ENTREPRENEURSHIP

CONCEPTS:

- Understands the potential for entrepreneurial activities in a range of occupational clusters.
- Understands that products and services in a technological society must be provided by people with specific knowledge.
- Develops further understanding of how a small business operates.

SKILLS:

The skills related to ENTREPRENEURSHIP are outlined in the learning objectives in column one.

ATTITUDES:

- Appreciates the scope of small businesses in a community.
- Appreciates that a diversity of skills is required by workers in a consumer society.
- Begins to accept responsibility for the development of concepts, skills and attitudes needed in a consumer society.

COURSE: PRACTICAL ARTS (I.O.P. Grade 9)
CONCEPT: ENTREPRENEURSHIP (4)

LEARNING OBJECTIVES	Related Life Skills
A. ENTREPRENEURIAL AWARENESS	
A.1 Identifies potential entrepreneurial opportunities in occupational clusters.	Recognizes entrepreneurial potential: Agribusiness: • lawn and garden maintenance • floral design Business and Office Operations: • telephone sales • paper/flyer routes Construction and Fabrication: • handyman/handywoman • window cleaning Creative Arts: • craft maker • artist Natural Resources: • trail guide • fire fighter Personal and Public Services: • beauty services • housekeeping Tourism and Hospitality: • caterer • bartender Transportation: • truck driver • gas station operator.
B. SMALL BUSINESS OPERATIONS	
B.1 Participates in the operations of a business venture in the school.	Shows enterprise: • performs volunteer tasks for community members and agencies • has a part-time job • takes a leadership role in a youth group or team sport • engages in further education activities.

Related Applications Across the Curriculum	Suggested Strategies/Activities

Science

Students are encouraged to investigate entrepreneurial opportunities in the local community. Opportunities investigated may relate to:

- environmental care and natural resources
- technology repair and service
- agribusiness
- construction and fabrication.

Social Studies

Investigates entrepreneurship in different countries.

Identifies and interviews local entrepreneurs.

The development of entrepreneurial attitudes and aptitudes can enhance the development of self-confidence and self-awareness.

Have students:

- identify one-person operations and other small businesses in the community
- use their imagination and brainstorm to identify potential entrepreneurial enterprises
- categorize the enterprises into the eight occupational clusters
- relate own personal strengths and interests to one or more of the enterprises.

Group students according to their identified areas of interest and have each group discuss how its members would go about becoming entrepreneurs:

- What high school courses would each take?
- Will further education be required?
- What are the advantages and disadvantages of being an entrepreneur?

Have students use a decision-making/problem-solving model to plan and implement a small business venture:

- a fashion show
- refreshments at school functions
  - dances
  - sports events
- printing business cards
- babysitting services
- bake sales
- bottle drives.

(The proceeds from the activities may be donated to a charity or used to supplement future entrepreneurial activities.)

Sample Model

1. The Idea:
   - brainstorm to generate ideas for an enterprise
   - evaluate idea
   - check the appropriateness of each idea with community partners
   - select "best" idea

LEARNING OBJECTIVES	Related Life Skills
C. FIELD EXPERIENCES	
C.1 Initiates a community partnership activity.	

Related Applications Across the Curriculum	Suggested Strategies/Activities
	2. The Plan: • develop an action plan • seek input from others • incorporate input into plan 3. Implementation: • determine what must be done/collected/ produced • identify possible problems and discuss how the problems would be overcome • determine management structure if more than one person is involved. Discuss: In a team effort, what happens if one or more members of the team disagree with one or more parts of the plan or how the plan is being implemented? • initiate activity 4. Evaluate • Was the enterprise a success? • What were the indicators of success? • Could the plan or implementation have been improved? How?
Language Arts Uses appropriate communication skills to converse with community members regarding community partnership activities.	Community Partnerships A practical arts course that has a customer service instructional component provides an excellent opportunity to introduce students to entrepreneurism and to reinforce the importance of good human relations skills. Have students initiate invitations to parents and other community members who are operating a small business to speak with the class about their operations. Solicit their help in establishing mentorship, job shadowing and other field experience opportunities. A brainstorming session led by a student may be directed toward identifying customer service and other community partnership activities not previously considered or used.
Science The science program facilitates a variety of community partnerships. These activities are intended to develop an understanding of the role of science and technology in society.	

PRACTICAL ARTS (I.O.P. GRADE 9)

WORK SKILLS

CONCEPTS:

- Develops an increased understanding of the difference between generic/employability skills and work skills.
- Recognizes the procedures used to achieve and maintain a safe and sanitary working environment.
- Develops an increased understanding that time and practise will improve performance and/or project quality.

SKILLS:

The skills related to WORK SKILLS are outlined in the learning objectives in column one.

ATTITUDES:

- Appreciates the relationship between task commitment and task repetition and level of performance.
- Displays safety consciousness.
- Demonstrates concern for self and others.

LEARNING OBJECTIVES

Related Life Skills

WORK SKILLS

The work skills identified in this curriculum guide are generic to each of the thematic activities contained in the Practical Arts *Teacher Resource Manual*.

Each activity will enable students to develop concepts, skills and attitudes that:

- reinforce concepts, skills and attitudes learned across the curriculum
- provide opportunities to gain knowledge of career opportunities from among clusters of occupations
- develop organizational and planning skills including decision making and problem solving, good work habits and time and task management.

Life skills are addressed in each of the following themes:

- ALL ABOUT BUSINESS
- PERSONAL AND PUBLIC SERVICES
- TECHNIQUES WITH TECHNOLOGY.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Teachers are encouraged to liaise with colleagues and community members in order to maximize the potential for integrating the resources of the school and the community.	Suggested teaching strategies and activities are included in the *Teacher Resource Manual*. Teachers are encouraged to supplement and complement the material contained in the *Teacher Resource Manual* with additional learning activities that best meet the needs, interests and ability levels of their students. Community Partnerships Community partnerships are an integral component in the teaching and learning of work skills related to each theme and occupational cluster. Partnership activities may include: • in-school activities – using community newspapers, newsletters – guest speakers – guest demonstrators – guest project evaluators – community and parent visitations – customer services • field experience activities – job shadowing – field trips – interviews – surveys – volunteerism – part-time jobs – community work – work study.

COURSE: PRACTICAL ARTS (I.O.P. Grade 9)
CONCEPT: WORK SKILLS (5)

LEARNING OBJECTIVES	Related Life Skills
A. EMPLOYABILITY	
A.1 Describes and compares work skills and employability skills related to occupational clusters.	Wants to work. Recognizes the abilities needed to get a job. Recognizes that a career path involves continuing education. Demonstrates employability skills: • attends school regularly • relates well to others • is always on time • respects the rights and safety of others. Demonstrates work skills: • is able to use tools, equipment and supplies to accepted standards • maintains a safe and sanitary work area • returns tools, equipment and unused supplies to correct storage areas.
B. SAFETY	
B.1 Practises safe work habits.	Recognizes safety practices used in the home: • prevention practices • early detection practices • emergency procedures.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Science Practises safe procedures for handling and storing laboratory/household materials that are potentially dangerous. Students are also expected to demonstrate manipulative skill and an understanding of safe laboratory procedures in performing investigations/ experiments.	A range of practical activities are outlined in the *Teacher Resource Manual*. These activities are arranged into three themes: • ALL ABOUT BUSINESS • SERVICE THAT MAKES A DIFFERENCE • TECHNIQUES WITH TECHNOLOGY. The activities outlined in each of these themes can be related to one or more of eight occupational clusters: • Agribusiness • Business and Office Operations • Construction and Fabrication • Creative Arts • Natural Resources • Personal and Public Services • Tourism and Hospitality • Transportation. The *Teacher Resource Manual* contains a matrix that shows the relationship between each activity and the eight occupational clusters. Divide students into small groups and assign each group two or more of the eight occupational clusters. Have each group: • discuss the work skills and employability skills they think are needed to obtain entry level employment in each occupational cluster • discuss the types of occupations that relate to each occupational cluster • chart the information resulting from their discussion. (See *Teacher Resource Manual*: "Work Skills".) Safety is everybody's business, in the home, the school, and in the workplace. Review (teach if necessary): • school safety rules, regulations and emergency procedures • general classroom/lab safety rules, regulations and emergency procedures. Use posters and other visuals to reinforce safe work habits.

LEARNING OBJECTIVES	Related Life Skills
B.2 Demonstrates safe handling of tools, equipment and supplies: • follows instructions • wears appropriate clothing • removes jewelry as appropriate • uses protective devices • performs pre-checks • respects safety of others.	Reads instructions before using a new tool or item of equipment. Follows manufacturers instructions when: • building a model from a kit • mixing garden chemicals • defrosting a packaged frozen food • using a packaged cake recipe.

Related Applications Across the Curriculum	Suggested Strategies/Activities
	Make safe work habits a major component of each student's task performance. Include: • pre-checks of tools and equipment • readiness to use tools and operate equipment (e.g., long hair tied back, wearing appropriate clothing and protective coverings, not wearing jewelry when using power tools and certain equipment) • maintenance of work area • tools, equipment and supply storage • respect for safety of others. Appoint or have students elect from among their peers: • a lab supervisor/manager • a supervisor for each project or small group activity. Rotate these positions to allow each student to experience the role and responsibilities of leadership.
Mathematics Uses mathematical tools of measurement as well as compasses and protractors only for their intended use.	Use checklists to evaluate each student's competency when handling each tool or item of equipment. (See *Teacher Resource Manual*: "Work Skills" for sample checklist.) Use "First Letters" mnemonics: C - caution A - alertness R - responsibility E - everyday and/or C - courtesy A - attention, attitude R - respect E - efficiency, effectiveness. Discuss the relatedness of each of the two CARE mnemonics to each of the eight occupational clusters.

LEARNING OBJECTIVES	Related Life Skills
C. SANITATION	
C.1 Practises sanitary work habits: • personal hygiene and appearance • disease and infection control • pollution control • waste management • respects rights of others to a clean living and working environment.	Appreciates the value and importance of a clean, tidy and infection-free living and working environment. Wears freshly laundered clothes. Controls spread of infections: • sneezes into hand or tissue • uses garbage containers to disperse of wastes • recycles bottles, papers and other materials • keeps garden free of weeds • maintains smoke-free areas.
D. TOOLS, EQUIPMENT, SUPPLIES	
D.1 Selects and uses correct tool for the job.	Uses correct tool for the job: • uses a hammer to hammer nails. • uses a screwdriver to install screws (does not use screwdriver to hammer a nail).

Related Applications Across the Curriculum	Suggested Strategies/Activities
Science Recognizes the importance of pollution control/waste management in facilitating ecological balance and environmental health (Monitoring the Local Environment).	Review strategies and activities outlined in the Grade 8 section of this curriculum guide (Work Skills: E. Sanitation). Have students discuss the procedures that they follow to maintain a sanitary living and working environment. Ask students who have part-time jobs to describe the sanitary procedures that are used in their workplaces.
Mathematics Understands and uses correct mathematical tools for measuring and drawing. Science Investigates principles governing the operation of a variety of thermal and electrical devices "Heat and Electricity in the Home": • How does it work? • How do I use it? • How might I repair it?	The students' ability to recognize each tool and to use it for its correct purpose should not be taken for granted. Incorrect use of tools is often learned in the home and these habits may be difficult to change. Before starting an activity, have each student or group of students: • identify the tools and supplies needed • obtain and safely locate the items in the work area. Check each work area to ensure correct items are in place. Holding various items in view of all students, ask: • "What is this item called?" • "What is it used for?" • "How should it be used?" Reinforce correct use of tools by using checklists. Discuss examples of incorrect tool use: • "Why should a screwdriver only be used to install screws?" • "What happens to a pair of dressmaking scissors if they are used to cut paper?" • "Should a spatula be used to remove burnt food from a saucepan?"

COURSE: PRACTICAL ARTS (I.O.P. Grade 9)
CONCEPT: WORK SKILLS (5)

LEARNING OBJECTIVES	Related Life Skills
E. PROJECTS	
E.1 Completes required number of projects.	Delivers: • papers to all subscribers on paper route • flyers to each household within the area. Hands in assignments on time. Performs assigned household duties.
E.2 Designs and produces a self-directed project.	Demonstrates: • initiative • creativity • organizing and planning skills • problem-solving and decision-making skills.

Related Applications Across the Curriculum	Suggested Strategies/Activities
Science Follows sequences of written instructions in performing laboratory investigations. The three-step framework for scientific inquiry and problem solving provides a structure in which critical thinking skills and the decision-making process can be used in order to complete a project: • Understanding the Problem • Developing and Carrying Out a Plan • Reviewing and Applying Results.	The thematic units contained in the *Teacher Resource Manual* outline a number of projects designed to develop students' ability to perform practical life skills and skills that can be related to eight occupational clusters. In schools where I.O.P. students are integrated with students in regular practical arts courses (Business Education, Home Economics, Industrial Education), teachers may use the I.O.P. thematic projects and/or their regular projects to meet the objectives of I.O.P. Practical Arts, Grade 9. Teachers are encouraged to supplement and complement the thematic projects outlined in the *Teacher Resource Manual* with additional learning activities that best meet the needs, interests and ability levels of their students. Encourage each student or small group of students to design and produce a self-directed project. Ensure that the projects selected are within the students' ability levels and that necessary tools, equipment and supplies are readily available. Have students: • identify and use a decision-making/problem-solving model to identify the details of the project • outline to show the sequence of tasks to be performed.

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